

|    | Type | Hits    | Search Text  | DBs  | Time Stamp          |
|----|------|---------|--|--|---------------------|
| 13 | BRS  | 1491184 | record\$6  | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT             | 2004/02/10<br>15:08 |
| 14 | BRS  | 97      | ((((purchase or (sale adj3 order) or payment) and (((indicia or link or hyperlink or button or banner) same (internet or web or www or online)) and ((internet or online or on-line or (on line) or web or www) same (donation or giving or charity or charities or charitable)))) and donation) and record\$6 | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT             | 2004/02/10<br>15:08 |
| 15 | BRS  | 183486  | scanner or ocr or icr  | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2004/02/12<br>11:19 |
| 16 | BRS  | 101498  | mail or mailpiece  | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2004/02/12<br>11:22 |
| 17 | BRS  | 7362    | type near10 (mail or mailpiece)  | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2004/02/12<br>11:23 |
| 18 | BRS  | 303     | type near10 (addressee)  | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2004/02/12<br>11:23 |
| 19 | BRS  | 35      | (scanner or ocr or icr) and (mail or mailpiece) and (type near10 (mail or mailpiece)) and (type near10 (addressee))  | USPAT; US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2004/02/12<br>12:41 |

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|    | Type | Hits    | Search Text  | DBs                                | Time Stamp       |
|----|------|---------|--|------------------------------------|------------------|
| 1  | BRS  | 4988174 | internet or online or on-line or (on line) or web or www   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:05 |
| 2  | BRS  | 4575    | donation or charity or charities or charitable   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:02 |
| 3  | BRS  | 143955  | purchase or (sale adj3 order) or payment   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:03 |
| 4  | BRS  | 1184    | (donation or charity or charities or charitable ) and (purchase or (sale adj3 order) or payment)   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:04 |
| 5  | BRS  | 55624   | (indicia or link or hyperlink or button or banner) same (internet or web or www or online)   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:05 |
| 6  | BRS  | 566     | ((indicia or link or hyperlink or button or banner) same (internet or web or www or online)) and (donation or charity or charities or charitable )   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:05 |
| 7  | BRS  | 482     | (purchase or (sale adj3 order) or payment) and (((indicia or link or hyperlink or button or banner) same (internet or web or www or online))) and (donation or charity or charities or charitable ))   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:05 |
| 8  | BRS  | 34354   | (internet or online or on-line or (on line) or web or www) same (donation or giving or charity or charities or charitable)   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:06 |
| 9  | BRS  | 1844    | ((indicia or link or hyperlink or button or banner) same (internet or web or www or online)) and ((internet or online or on-line or (on line) or web or www) same (donation or giving or charity or charities or charitable))  | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:06 |
| 10 | BRS  | 955     | (purchase or (sale adj3 order) or payment) and (((indicia or link or hyperlink or button or banner) same (internet or web or www or online))) and ((internet or online or on-line or (on line) or web or www) same (donation or giving or charity or charities or charitable)))                | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:07 |
| 11 | BRS  | 3349    | donation   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:07 |
| 12 | BRS  | 112     | ((purchase or (sale adj3 order) or payment) and (((indicia or link or hyperlink or button or banner) same (internet or web or www or online))) and ((internet or online or on-line or (on line) or web or www) same (donation or giving or charity or charities or charitable)))) and donation | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/02/10 15:07 |

Yes ✓

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6/9,K/13 (Item 13 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00604190 92-19293

**The Postal Service Forges Ahead with OCR**

Antelman, Leonard

Inform v6n3 PP: 20-23 Mar 1992 ISSN: 0892-3876 JRNL CODE: IFN

DOC TYPE: Journal article LANGUAGE: English LENGTH: 4 Pages

ABSTRACT: As part of a \$5-billion program to automate its operations, the US Postal Service spent \$429 million on automation equipment in 1991 and plans to spend \$1.28 billion in 1992. The Postal Service is developing such products as remote bar code readers, optical character readers, and bar code sorters through relationships with research institutions. The Remote Bar Coding System (RBCS) is designed to automate the processing of mail that cannot be read by high-speed optical character recognition (OCR). The Postal Service's optical character readers cost about \$800,000 each and have the capability to read print and type font on about 13 pieces of mail per second, then print a bar code on each piece. Westinghouse is currently building the input-output subsystem for the RBCS, while ElectroCom Automation is building the image processing subsystem. The Postal Service uses some CD-ROM equipment for the storage of its massive database of millions of ZIP+4 numbers.

## COMPANY NAMES:

Postal Service

GEOGRAPHIC NAMES: US

DESCRIPTORS: OCR; Postal & delivery services; Bar codes; Case studies;  
Government agencies; Automation

CLASSIFICATION CODES: 5240 (CN=Software & systems); 8350 (CN=Transportation industry); 9550 (CN=Public sector); 9110 (CN=Company specific); 9190 (CN=United States)

...ABSTRACT: research institutions. The Remote Bar Coding System (RBCS) is designed to automate the processing of mail that cannot be read by high-speed optical character recognition (OCR). The Postal Service's optical character readers cost about \$800,000 each and have the capability to read print and type font on about 13 pieces of mail per second, then print a bar code on each piece. Westinghouse is currently building the...

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**6/9,K/61 (Item 1 from file: 2)**

DIALOG(R) File 2:INSPEC

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6312013 INSPEC Abstract Number: C1999-09-7185-012

**Title: Development of wide area scanner for OCR flat sorter**

Author(s): Iwakawa, M.; Shingu, S.; Kato, H.; Mutoh, H.; Kakishima, T.; Watanabe, M.

Author Affiliation: Div. of Ind. Autom., NEC Corp., Japan

Journal: NEC Research and Development vol.40, no.2 p.171-5

Publisher: NEC Creative,

Publication Date: April 1999 Country of Publication: Japan

CODEN: NECRAU ISSN: 0547-051X

SICI: 0547-051X(199904)40:2L:171:DWAS;1-9

Material Identity Number: N043-1999-003

Language: English Document Type: Journal Paper (JP)

Treatment: Applications (A); Practical (P)

Abstract: Recently the demand for flat **mail** sorting by **OCR** (optical character reader) has been growing rapidly. Flat **mail** items are large, and have a variety of thickness. Therefore high-performance scanners which have both wide field of view and deep depth of field are required for flat **mail** sorting automation. Furthermore a non-contact **type** image **scanner** is needed because flat **mail** has a variety of shapes. The authors have developed a prototype wide-area **scanner** of non-contact type which has 50 mm depth of field and twice as wide field of view as that of conventional letter scanners. As a result of evaluations, the expected capability of capturing a clear image was confirmed. (4 Refs)

Subfile: C

Descriptors: document image processing; image scanners; mailing systems; optical character recognition; postal services

Identifiers: wide area scanner; flat mail sorting; OCR; optical character recognition; high-performance scanners; field of view; depth of field; image scanner; letter scanners; postal services

Class Codes: C7185 (Administration of other service industries); C1250B (Character recognition); C5260B (Computer vision and image processing techniques)

Copyright 1999, IEE

Abstract: Recently the demand for flat **mail** sorting by **OCR** (optical character reader) has been growing rapidly. Flat **mail** items are large, and have a variety of thickness. Therefore high-performance scanners which have both wide field of view and deep depth of field are required for flat **mail** sorting automation. Furthermore a non-contact **type** image **scanner** is needed because flat **mail** has a variety of shapes. The authors have developed a prototype wide-area **scanner** of non-contact type which has 50 mm depth of field and twice as wide...

?t s6/9,k/63

**6/9,K/63** (Item 1 from file: 233)  
DIALOG(R)File 233:Internet & Personal Comp. Abs.  
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00602076 00PI05-032

**Antivirus service providers**

Rigney, Steve

PC Magazine , May 9, 2000 , v19 n9 p183, 1 Page(s)

ISSN: 0888-8507

Languages: English

Document Type: Articles, News & Columns

Geographic Location: United States

Reports on the emergence of antivirus service providers that meet the enterprise challenge of keeping clients and servers up-to-date with new virus definitions. Says that MailZone from **Mail .com scans** a corporation's incoming and outgoing electronic **mail** and attachments for viruses. Explains that the E-mmunity subscription service from the Electric **Mail** Company automatically deletes the attachment upon discovery of a virus, and then sends the message to the recipient with a ``Warning of Infection'' alert. Notes that Trend Micro offers a similar **type** of electronic **mail** virus protection but it is targeted at Internet service providers (ISPs) which resell the service to their customers. Mentions that Network Associates has launched the myCIO.com site, an online collection of multiple tools for protecting desktops from various forms of attack. Includes one photo. (MEM)

Descriptors: Virus; Enterprise Computing; Security; Outsourcing;  
Electronic Mail; Online Services

... keeping clients and servers up-to-date with new virus definitions. Says that MailZone from **Mail .com scans** a corporation's incoming and outgoing electronic **mail** and attachments for viruses. Explains that the E-mmunity subscription service from the Electric **Mail** Company automatically deletes the attachment upon discovery of a virus, and then sends the message...

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6/9,K/56 (Item 1 from file: 610)  
DIALOG(R)File 610:Business Wire  
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00235848 20000316076B4123 (THIS IS THE FULLTEXT)  
**Pitney Bowes Introduces M3 Mixed Mail Manager; Automates Time Consuming, Labor Intensive Process for More Efficient Handling of Incoming Mail**  
Business Wire  
Thursday, March 16, 2000 10:47 EST  
JOURNAL CODE: BW LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
DOCUMENT TYPE: NEWSWIRE  
WORD COUNT: 606

TEXT:

SHELTON, Conn., Mar 16, 2000 (BUSINESS WIRE) - The Incoming Messaging Solutions business of Pitney Bowes' (NYSE: PBI) today introduced the M3(TM) Mixed Mail Manager--an automated messaging solution that processes, tracks and manages incoming mixed mail. The M3(TM) System, is the first in a suite of incoming messaging solutions from Pitney Bowes and results from the recently announced strategic alliance with Siemens ElectroCom.

The M3(TM) Mixed **Mail** Manager is a system designed to automate the processing of the highly diverse mix of **mail** coming into today's corporate **mail** centers such as postcards, letters, flats and magazines. Targeted for medium to large-sized companies processing between 2,500 and 25,000 pieces of **mail** per day, this system reads all incoming addresses, including handwritten and interoffice **mail**, dramatically reducing the need for manual sorting. The M3(TM) System also provides valuable reports that allow companies to monitor **mail** volume and **type** by department for improved planning and cost management, which are critical for improving mailroom operational efficiency. The M3(TM) Mixed **Mail** Manager is being introduced at the National Postal Forum from March 19 -22. "The new M3(TM) System is a joint effort that brings together two global **mail** leaders," said Charlene Malone, Vice President and General Manager, Incoming Messaging Solutions. "Through the combination of Pitney Bowes' sophisticated feeder and software applications and Siemens ElectroCom's advanced **optical character recognition** and sorter technology, we have set a new standard in incoming **mail** automation and provided our customers with a powerful tool to meet their complex needs."

A significant increase in mail volume and continued pressure to control costs has brought mail sorting problems into sharper focus. Valuable productivity benefits of the M3(TM) System include:

- Mixed Mail Feeding and Sorting - The system's uninterrupted feeder eliminates the need for time consuming mail preparation. Unsorted mail such as postcards, letters, flats, magazines/catalogs and express envelopes, up to 1/2 inch thick and 2 lbs. in weight, is stacked on the feeder and rapidly delivered to the proper bins at speeds up to 7,200 pieces per hour. The system can be programmed to sort mail by destination to mail stop, floor or department with up to 2,300 sort

groups.

- Employee Database Management - The employee database merges required data from multiple sources into one central database. The M3(TM) System then automatically reads each address, locates the recipient in the employee database and sorts the mail into the correct bin for delivery.
- Accounting and Management Reporting - The M3(TM) System's powerful reporting software provides valuable information to maintain tight control over mailroom costs. For resource planning and charge backs, accounting reports detail mail volume, type, usage, rates and processing time. Productivity reports measure operational efficiency of the system, operator, and sort schemes, while system performance reports provide summaries of actual read rates.
- Ergonomic and Modular Design - Each system is scalable to a company's needs, with extension modules and add-on software functionality that allow the system to grow along with the company's needs. By positioning the feeder and sort bins in close proximity, the system can be operated by one or more operators.

#### ABOUT PITNEY BOWES

Pitney Bowes Inc., headquartered in Stamford, Conn., is a \$4.4 billion global provider and worldwide leader of mail and messaging management solutions. The company is dedicated to providing integrated solutions to meet the increasingly complex messaging needs of its customers. The Incoming Messaging Solutions line of business is headquartered in Shelton, CT. For more information on Pitney Bowes, visit the company's Web site at [www.pitneybowes.com](http://www.pitneybowes.com)

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CONTACT: Ogilvy Public Relations Worldwide  
Jason Burak, 212/880-5337  
Pitney Bowes  
Jean Poulin, 203/924-3920

KEYWORD: CONNECTICUT  
INDUSTRY KEYWORD: COMPUTERS/ELECTRONICS  
HARDWARE  
PUBLISHING  
TELECOMMUNICATIONS  
PRODUCT

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COMPANY NAMES: siemens a.g.; pitney bowes, inc.; PITNEY BOWES INC; OGILVY  
PUBLIC RELATIONS WORLDWIDE LTD  
INDUSTRY NAMES: AUTOMATION; COMPUTER SOFTWARE; POSTAL SERVICES;  
PRODUCTIVITY; COMPUTERS; BUSINESS SERVICES; ECONOMIC INDICATORS  
EVENT NAMES: PRODUCTIVITY; TECHNOLOGY DEVELOPMENT

TEXT:

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6/9,K/15 (Item 15 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00211759 83-23320

**Consider OCR Readability Problems**

Olges, John

Journal of Forms Management v8n2 PP: 29-30 Apr/Jun 1983 JRNL CODE: JFM  
DOC TYPE: Journal article LANGUAGE: English LENGTH: 2 Pages

ABSTRACT: The US Postal Service has begun installing **optical character recognition** ( **OCR** ) address scanners, bar code printers, and bar code readers for mail sorting. The Postal Service has experienced several problems in its experience with prototype equipment. Forms professionals involved with designing envelopes should be aware of these problem areas and prepare strategies to avoid the problems: 1. High contrast between print and background is necessary. 2. All address information, particularly city, state, and ZIP code, must be within the designated **OCR** read zone. 3. Extraneous printing should be eliminated. 4. A clear five-eighths-inch band must be left at the bottom of the envelope for bar-code printing. 5. For window envelopes, a one-quarter-inch band should be clear around the address. **OCR** equipment also has problems with filled-in characters, touching lines, bleed-through, variable print sizes, and script type .

DESCRIPTORS: OCR; Readability; Scanning; Mail; Optical bar code readers  
CLASSIFICATION CODES: 5200 (CN=Communications & information management)

ABSTRACT: The US Postal Service has begun installing **optical character recognition** ( **OCR** ) address scanners, bar code printers, and bar code readers for mail sorting. The Postal Service has experienced several problems in its experience with prototype equipment. Forms...

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00335556/9

DIALOG(R)File 2:INSPEC

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00335556 INSPEC Abstract Number: C72001088

**Title: Letter mail sorting: an examination of cost and service**

Author(s): Cohen, R.; McBride, C.; White, T.

Author Affiliation: Inst Defense Analysis, Arlington, VA, USA

Journal: Bulletin of the Operations Research Society of America

vol.19, suppl.2 p.B226-7

Publication Date: 1971 Country of Publication: USA

CODEN: ORSBAS ISSN: 0030-3666

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Abstract only given. The major variable cost in the US Postal Service is sorting letter mail. In recognition of this problem, the Postal Service has inaugurated a major research program to mechanise this activity. This study develops a generalized set of procedures for evaluating alternative mechanisation. Methods are developed for determining current costs and the effect of the level of service is examined. The procedures also include a linear programming model which maximises savings from mechanisation, given service constraints and hourly and daily volume fluctuations of different types of mail. Code sort systems, a prime mechanisation candidate, is evaluated using this methodology.

Subfile: C

Descriptors: materials handling; postal services

Identifiers: postal service; sorting; letter mail; linear programming model; mechanisation; code sort systems

Class Codes: C3320B (Postal services)

t s21/9,k/1,4

21/9,K/1 (Item 1 from file: 15)  
DIALOG(R) File 15:ABI/Inform(R)  
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01077878 97-27272

**Postal automation: A history - and future - of improving service**

Anonymous

Managing Office Technology v40n8 PP: 25-26 Aug 1995 CODEN: MOFTDB

ISSN: 1070-4051 JRNL CODE: MOP

DOC TYPE: Journal article LANGUAGE: English LENGTH: 2 Pages

WORD COUNT: 684

ABSTRACT: The use of automation by the US Postal Service is discussed.

TEXT: Those little vertical bars known as "barcodes" seem to be everywhere--even on mail. The automated sorting of the nation's mail, using barcodes, enables the Postal Service to provide the best service at the lowest possible cost. Automation provides for the most **cost**-effective, efficient and consistent mail **sorting**.

For the Postal Service, it all started in the early 1960s with the advent of ZIP codes. Since then we have seen the five-digit ZIP Code grow to a ZIP+4 or nine-digit ZIP Code. This numerical representation of an address led to the Postal Service's use of an Optical Character Reader (OCR) which barcodes and sorts mail. Today, using the nine-digit ZIP Code and the last two digits of the street address or box number, an 11-digit barcode is sprayed on the mail for finer sorting. This extended barcode allows the Postal Service to **sort** mail in the most **cost** efficient, reliable and consistent way.

For example, one OCR, operated by two people, can sort 35,000 pieces of letter mail an hour. It would take more than 40 people to do that manually. The actual dollar savings achieved through postal automation can best be demonstrated by the **cost** of **sorting** a thousand letters. To manually **sort** a thousand letters it **costs** \$42. To **sort** a thousand letters with mechanized equipment **costs** \$19. But, if you **sort** those letters with the Postal Service computer equipment, it **costs** only \$3. These cost savings are passed on to qualifying mailers as postage discounts for presorted and pre-barcoded mailings.

In addition to the cost savings, automation reduces handling and the opportunity for error. Stamped, barcoded letters have a higher on-time delivery rate than non-barcoded letters. And as of Fiscal Year '94, 54 percent of First Class letters had a barcode applied by postal equipment or the customer. The Postal Service's goal to insure accurate delivery is 95 percent of all letter mail barcoded by 1997. The Postal Service expects 40 percent of barcodes will be applied by the customer and 60 percent by postal automated equipment.

Postal automation is not just a single machine. Since the early 1960s, the Postal Service has been steadily replacing manual and mechanized operations with high-tech equipment. The following is a description of the automated sorting equipment that is currently being used to process today's mail.

Advanced Facer Canceled System (AFCS): This system faces, cancels, and sorts **letter mail** to one of seven separations, depending on the **type** of **mail**. Business reply **mail** is sorted at this point to capture and sort this **mail** quickly. All machine readable **mail** is taken to an OCR; pre-barcoded mail is taken directly to the Bar Code Sorter; and, script mail or other non-machineable letters are routed to the Letter Sorting Machines or Remote Bar Code Sorting System.

OCR: Scans an entire address on an envelope, determines or verifies the ZIP+4 code and applies a barcode. Each OCR contains a data base for every delivery address in the nation. Also built into the data base are national and local address "aliases," which are common misspellings or abbreviations. Examples--Peachtree St. and PTREE St; Dunwoody vs. DNWY or DNWDY.

Bar Code Sorter (BCS): Sorts letter mail according to barcodes previously applied to the letters into one of 100 separations based on the sort plan in use. A BCS can be operated by two employees at a speed of 35,000 pieces an hour.

Delivery Bar Code Sorter (DBCS): Sorts barcoded mail to the walk sequence of the carrier.

Remote Bar Code System (RBCS):

Technology to apply barcodes to hand-written or otherwise automation unreadable letters. Currently 47 sites are on line. The Postal Service's plan is to have 268 networks on line by 1997.

Address quality is critical to timely and effective mail delivery. About 30 percent of addresses have some flaw--incorrect or incomplete information. The best advice to take advantage of postal automation is to address completely and correctly. Always use directionals, apartment and suite numbers, and street designators. This will help the Postal Service maintain fast, reliable and efficient mail service.

This information was provided by the United States Postal Service.

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COMPANY NAMES:

Postal Service

GEOGRAPHIC NAMES: US

DESCRIPTORS: Postal & delivery services; Automation; Bar codes

CLASSIFICATION CODES: 9190 (CN=United States); 9000 (CN=Short Article);

8350 (CN=Transportation industry)

...TEXT: to provide the best service at the lowest possible cost. Automation provides for the most **cost**-effective, efficient and consistent mail **sorting**.

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21/9,K/4 (Item 1 from file: 148)  
DIALOG(R) File 148:Gale Group Trade & Industry DB  
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08128561 SUPPLIER NUMBER: 17403453 (THIS IS THE FULL TEXT)  
**Mailroom automation: not just for large-volume mailers. (includes related article)**  
Managing Office Technology, v40, n8, p22(5)  
August, 1995  
ISSN: 1070-4051 LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 2427 LINE COUNT: 00195

**ABSTRACT:** The benefits generated by mailroom automation justify the investment in new systems and technologies even in small- to medium-sized mailrooms. Two cases are presented to illustrate this point. For Braintree, MA-based J.L. Hammet, the installation of an intelligent inserting system helped increase its monthly volume of mailpieces from 35,000 to 60,000. In addition, the company was able to consolidate its various mail processing centers and reduce the number of mail processing personnel to just one. For the Mail Marketing Group in Bristol, England, use of Bell & Howell's ADVANTAGE mail processing system enhanced the company's competitiveness by enabling it to provide its customers the speed and cost-effectiveness they require. The equipment also helped Mail Marketing to increase its output capability, minimize personnel involvement and increase profit margins.

**TEXT:**

When it comes to upgrading the mailroom operations for any business, the cost involved is often the determining factor. This is especially true where small- to medium-sized mailrooms are concerned.

It is often difficult to talk management into making an investment in the mailroom. However, the two following cases may help point out how really prudent these investments can be, no matter what your mailing volume. So if you think you're a small operation with a sporadic mail volume that couldn't possibly benefit from automation - read on.

#### SAVINGS, PRODUCTIVITY JUSTIFY INSERTING SYSTEM

Did you ever wonder whether or not the cost of an inserting system would be worth it in your mid-volume mail center? Some days the load is heavy and the need seems great; however, the next day things may slow down and the investment hardly seems worth it.

This was just how Jim Rochester, administrative manager for the J.L. Hammet Co. (Braintree, MA) felt about investing in a high-tech inserting system for the company's volume of 35,000 mailpieces per month.

"We installed an intelligent inserting system in our corporate offices less than a year ago, and it was immediately clear that the savings in labor alone would more than cover the lease cost," says Rochester.

Before the installation, Hammet was processing its mail by hand in Braintree and also in its three regional distribution centers. However, because there were very pronounced peaks and valleys in volume, none of the centers could support a full time mailing operation. Typically, one or two employees at each center would be pulled from their regular job each day to fold, insert, seal and mail customer invoices. Four or five others would be assigned at the beginning of each month to "process" statements - a task that took from two to five days, and some overtime.

"We tested the system in Braintree before we committed," says Rochester. "The Massachusetts pilot was so successful that we've consolidated all of our mail processing there. And just one employee handles the job easily - with the help of the inserting system."

The consolidated volume, according to Rochester, has now reached 60,000 mailpieces a month.

Rochester also notes that no employee has lost a job because of the new technology. "We're all just working a whole lot more efficiently at what we were hired to do. So the decision to invest has been prudent and beneficial from a number of standpoints."

#### MAKING THE DECISION

"We explored this from every angle," says Rochester. "This would be a

big and unusual usual step for a company the size and scope of ours, and we had to make sure it made absolute sense before we took the plunge."

Rochester was concerned about things like size, cycle speeds, intelligence and other capabilities of the inserting system; the ease of accommodating additional applications, equipment service and operator training; document handling issues associated with existing forms; the mail finishing process; and the opportunity for saving postage plus other questions about USPS automation requirements now, and in the future.

Rochester turned to Paul Karl, production mail area representative, Pitney Bowes, and Christy Rose, the local Pitney Bowes Mailing Systems specialist, for help.

The review process took almost two years and included numerous on-site visits to see how other companies were handling similar applications and volume.

#### EXAMINE ALL OPTIONS

"We wanted Jim to look at every possible option from software and printers through the entire finishing process," says Karl. "For example, he was able to see first hand the tradeoffs between impact and laser printers, between cut sheet and continuous form inputs, and between in-line and off-line metering systems."

As a result, Rochester was able to specify a mailing system to meet Hammet's needs. The system consists of a high speed intelligent inserter along with a Paragon mailing machine. The inserter has a burster/accumulator/folder input, and two enclosure stations. Its built-in intelligence includes IDs of collation, ZIP deflect, and selective enclosure feeding.

The Paragon adds Weigh-on-the-Way (WOW) metering, and gives the capability for efficiently processing every day mail.

"Our invoices vary markedly from customer to customer in terms of number of pages and thus, weight," says Rochester. "The unique metering capability of WOW allows us to run everything in ZIP order and qualify for postage discounts we might otherwise miss."

The selective feeders, at this time, are used primarily for Business Return Envelopes, and enable Hammet to utilize a lock-box arrangement, which has had a positive effect on Hammet's cash flow, according to Rochester.

Pitney Bowes field engineers helped Rochester redesign Hammet's forms and envelopes so that everything would run smoothly. They also trained Hammet's designated operators so that they now have two people fully qualified to run every aspect of the system, and they can even handle minor service requirements.

Service has not, however, been a problem. "Uptime exceeds 99 percent," says Rochester. "And the few times we've needed help, the technician has been here well ahead of the guaranteed four-hour response."

In addition to the inserting system, Rochester has also installed mainframe software to enable ZIP + 4 bar-coding for additional postage savings, and has plans to add a sheet feeder to handle additional applications like promotional mailings.

"We also expect to increase our marketing efforts by taking advantage of the selective enclosure feeders on the inserting system," says Rochester. "It's a new opportunity for us, one we really hadn't anticipated."

#### THE SEARCH

Graham Cooper, operations director for the Mail Marketing Group (Bristol, England), was first attracted to inserting equipment because of the speed and potential for increased output that the technology offers.

Two years ago, the company purchased inserting equipment and nine months later, needed to invest in a second piece of equipment to handle time-sensitive documents. Not long after, Cooper required additional insert stations in order to service customers with huge mail volumes.

"We were looking for something that would deliver high speed on fairly simple packs," says Cooper. "We were really keen on the system when we first heard of the product's ability to dramatically increase our processing capabilities."

The product to which Graham refers is the Bell & Howell ADVANTAGE TM mail processing system.

With no systems in place in his area, Cooper traveled to a trade show in Orlando, FL where Bell & Howell was demonstrating the system, and purchased a six-station system.

Cooper's initial production goal was two-and-a-half to three times the output of the existing equipment. Typical jobs in the first unit included straightforward, one-or two-insert mailings for mail order and retail accounts with high volumes and short lead times.

"We initially used the equipment for what we call 'advance mailers' or 'prenotification notices,' with fairly high volumes, ranging from one to three million items that have to get out the door quickly," says Cooper. "With the ability to run at around three times the speed of conventional equipment, the ADVANTAGE system offers our clients tremendous benefits in terms of speed and cost-effectiveness."

Cooper found that not only did the inserter meet his speed requirements, but that a second unit gave his company a "competitive edge on delivery times."

"If a client comes up to us needing to mail 500,000 pieces overnight, we have a real good chance of getting the business," says Cooper.

"Previously, it might have taken us a week to get that kind of volume inserted. As a result, they probably would have taken their business elsewhere. Now that some of our customers - most retail outlets and a grocery chain - know of our capabilities, we're getting a good amount of business from emergency mailings."

#### ADVANTAGES - AND THEN SOME

Cooper increased the system to eight stations when a customer who was mailing about 600,000 to 700,000 items a week, increased their volume to reach numbers that required seven insert stations. In response, Cooper went with eight stations to service this one requirement.

The new stations, however, also allowed Mail Marketing to bid on a major new business client that requires all eight stations to process more than 12 million pieces a year.

"It's an American company that is one of the largest mailers in the U.S., and they want to set up shop in the U.K. in a very big way," says Cooper. "We've seen the pack that they want to mail and it looks as if it has been designed for the ADVANTAGE system. It's what we call a C5 stretch pack that measures 12 inches by 6 inches. Having the system we have, once again, has given us a major competitive edge."

The Mail Marketing Group employs 400 people and 30 to 35 of those employees run the document processing equipment which includes 13 printers.

The company looks for jobs that require equipment to generate roughly 250,000 filled envelopes over a 24-hour period. Each day is broken down into two 8 or two 12-hour shifts, with an hour-and-a-half of stoppage on each shift for breaks and meals.

"The net output is well over 10,000 per hour," says Cooper, "but the real cycling time is about 15,000 to 16,000 per hour. Working on a double shift pattern, the new equipment enables an additional throughput of 1-1/2 million items per week."

Mail Marketing's customer base consists mostly of large financial institutions, insurance firms, retail outlets and other enterprises specializing in direct mail.

The older machines are still on the floor at Mail Marketing, and occasionally used, but current plans call for new systems to eventually be installed throughout the mailing operations center.

"The ADVANTAGE inserters have basically allowed us to take nine slow, chugging machines and replace them with three state-of-the-art inserters," says Cooper. "Along the way, we've doubled our output capability, reduced staff involvement and turned what was a very low margin business into a healthy one."

RELATED ARTICLE: POSTAL AUTOMATION: A History - and Future - of Improving Service

Those little vertical bars known as "barcodes" seem to be everywhere - even on mail. The automated sorting of the nation's mail, using barcodes,

enables the Postal Service to provide the best service at the lowest possible cost. Automation provides for the most **cost** -effective, efficient and consistent mail **sorting**.

For the Postal Service, it all started in the early 1960s with the advent of ZIP codes. Since then we have seen the five-digit ZIP Code grow to a ZIP+4 or nine-digit ZIP Code. This numerical representation of an address led to the Postal Service's use of an Optical Character Reader (OCR) which barcodes and sorts mail. Today, using the nine-digit ZIP Code and the last two digits of the street address or box number, an 11-digit barcode is sprayed on the mail for finer sorting. This extended barcode allows the Postal Service to **sort** mail in the most **cost** efficient, reliable and consistent way.

For example, one OCR, operated by two people, can sort 35,000 pieces of letter mail an hour. It would take more than 40 people to do that manually. The actual dollar savings achieved through postal automation can best be demonstrated by the **cost** of **sorting** a thousand letters. To manually **sort** a thousand letters it **costs** \$42. To **sort** a thousand letters with mechanized equipment **costs** \$19. But, if you **sort** those letters with the Postal Service computer equipment, it **costs** only \$3. These cost savings are passed on to qualifying mailers as postage discounts for presorted and pre-barcoded mailings.

In addition to the cost savings, automation reduces handling and the opportunity for error. Stamped, barcoded letters have a higher on-time delivery rate than non-barcoded letters. And as of Fiscal Year '94, 54 percent of First Class letters had a barcode applied by postal equipment or the customer. The Postal Service's goal to insure accurate delivery is 95 percent of all letter mail barcoded by 1997. The Postal Service expects 40 percent of barcodes will be applied by the customer and 60 percent by postal automated equipment.

Postal automation is not just a single machine. Since the early 1960s, the Postal Service has been steadily replacing manual and mechanized operations with hightech equipment. The following is a description of the automated sorting equipment that is currently being used to process today's mail.

Advanced Facer Canceler System (AFCS): This system faces, cancels, and sorts **letter mail** to one of seven separations, depending on the **type** of **mail**. Business reply **mail** is sorted at this point to capture and sort this **mail** quickly. All machine readable **mail** is taken to an OCR; pre-barcoded mail is taken directly to the Bar Code Sorter; and, script mail or other non-machineable letters are routed to the Letter Sorting Machines or Remote Bar Code Sorting System.

OCR: Scans an entire address on an envelope, determines or verifies the ZIP+4 code and applies a barcode. Each OCR contains a data base for every delivery address in the nation. Also built into the data base are national and local address "aliases," which are common misspellings or abbreviations. Examples - Peachtree St. and PTREE St; Dunwoody vs. DNWY or DNWDY.

Bar Code Sorter (BCS): Sorts letter mail according to barcodes previously applied to the letters into one of 100 separations based on the sort plan in use. A BCS can be operated by two employees at a speed of 35,000 pieces an hour.

Delivery Bar Code Sorter (DBCS): Sorts barcoded mail to the walk sequence of the carrier.

Remote Bar Code System (RBCS): Technology to apply barcodes to hand-written or otherwise automation unreadable letters. Currently 47 sites are on line. The Postal Service's plan is to have 268 networks on line by 1997.

Address quality is critical to timely and effective mail delivery. About 30 percent of addresses have some flaw - incorrect or incomplete information. The best advice to take advantage of postal automation is to address completely and correctly. Always use directionals, apartment and suite numbers, and street designators. This will help the Postal Service maintain fast, reliable and efficient mail service.

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INDUSTRY CODES/NAMES: CMPT Computers and Office Automation  
DESCRIPTORS: Office mail procedures--Automation; Mail sorting--Automation  
; Advertising fliers--Management; Office equipment and supplies--Usage  
PRODUCT/INDUSTRY NAMES: 3570002 (Automated Office Equipment)  
SIC CODES: 3570 Computer and Office Equipment  
FILE SEGMENT: MI File 47

... to provide the best service at the lowest possible cost. Automation provides for the most **cost** -effective, efficient and consistent mail **sorting** .

For the Postal Service, it all started in the early 1960s with the advent of...

...sprayed on the mail for finer sorting. This extended barcode allows the Postal Service to **sort** mail in the most **cost** efficient, reliable and consistent way.

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| S5  | 75      | RD (unique items)  |
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S16 48 S11 AND S13  
S17 39 RD (unique items)  
S18 35 S17 NOT PY>2000  
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S21 4 RD (unique items)  
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S10 333 S2 (S) S7 (S) S8  
S11 19213 TYPE (10N) (PRINT OR PRINTING OR SCRIPT OR (ADDRESSEE (2W)  
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Linzmayr, Owen W.  
Home Office Computing, v8, n12, p32(2)  
Dec, 1990  
ISSN: 0899-7373 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1902 LINE COUNT: 00143

ABSTRACT: The United States Postal Service offers a free service called Zip+4 Conversion, which can help a small-business manager route mail for accurate and speedy delivery. The Zip+4 code uses the standard five-digit zip code plus a four-digit suffix that pinpoints a delivery address to a particular street, or even to a department of a company. The Postal Service's Zip+4 Conversion adds the four-digit extensions to zip codes in an existing database. The service also corrects misspelled street or city names, erroneous five-digit zip codes and inappropriate abbreviations. To take advantage of the service, it is necessary to provide the Postal Service with an MS-DOS diskette with an address database format (SDF) file, also known as a Fixed ASCII file. Most database programs will save file in SDF.

TEXT:

The Postal Service Will Enhance Your Mailing-List Database for Free  
No matter what size business you run out of your home office, your mailings can be as efficient as those of the largest corporation with a little help from an unexpected source: the United States Postal Service. By using your computerized database and a free, but little-known, service provided by the Postal Service called Zip + 4 Conversion, your mail can be put on the fast track for accurate and speedy delivery. The faster your mail is delivered, the sooner it can do its job and improve your cash flow. If your mail volume is great enough, you can even qualify for significant postage discounts.

It's a common misconception that the Postal Service is a hopelessly inefficient behemoth. The uniformed, neighborhood mail carrier with the pith helmet is the only contact many people have with the Postal Service. As management guru Tom Peters would say, the mail carrier walking the route represents the "high-touch, low-tech" component of the Postal Service.

The employees you don't see, however, use the latest in high technology to run a streamlined operation behind the scenes at large Postal Service facilities across the country. Machines with optical "eyes" speed-read more than 36,000 typewritten addresses per hour. Tiny bar codes representing the addresses are automatically sprayed onto envelopes quicker than a band of New York City graffiti artists tagging a virgin subway car. The bar-coded mail races through a sorting process toward its final destination virtually untouched by human hands--greatly reducing costs, delivery time, and the chance of error.

HOW TO ENHANCE YOUR MAILING LIST

At the heart of the Postal Service's technological advances is the voluntary Zip + 4 code. Introduced in 1979, the Zip + 4 code is composed of the standard five-digit zip code plus a four-digit suffix that helps pinpoint the delivery address to a specific street, or even a particular department in a company. If you type a standard five-digit zip code on your mail, the optical character recognition (OCR) machine must read these numbers, plus the (street-address information, and then consult its database to figure out the correct Zip + 4 code for the recipient. If, however, you provide a Zip + 4 code, that lookup step is eliminated and

time is saved. The problem is that most people don't know their own Zip + 4 code, much less the equivalent codes for everyone to whom they send mail. That's where the Postal Service comes to the rescue.

Its Zip + 4 Conversion service adds the four-digit extension to the zip codes in your existing address database. (See box, "Make Your Mail Postal Service-Ready," on how to bring your address list up to snuff.) Furthermore, corrections are also made on any erroneous five-digit zip codes, misspelled street and city names, and inappropriate abbreviations. Best of all, this service is absolutely free and available to everyone.

All you must do is send the Postal Service an MS-DOS formatted disk (either a 3.5-inch or 5.25-inch floppy) with your address database saved as a standard database format (SDF) file, also called a Fixed ASCII file. While most database programs can save files automatically in SDF, it's important to understand the SDF data structure in case you need to make adjustments to your address file.

In an SDF file, each record takes up one line, so a carriage return delimits (indicates the end of) each record. Also, each field of each record begins in the same character column and is the same fixed length in each record. For example, if the city field begins in column 41 and is 20 characters long, the state field always begins in column 61 and is two characters long. Make sure your zip-code field is 10 characters long, so there's room to add a hyphen and the four-digit extension used in the Zip + 4 scheme.

Most MS-DOS database applications have an option for simply saving information in SDF files. For example, "Fixed ASCII (SDF)" is one choice on Q&A's Export menu. But for those with a Macintosh, things get a bit trickier. No matter what database you use, here's one way to set up an SDF file. First, save your database in text format by choosing the tab- or comma-delimited Save As option. Then transfer this text file to an MS-DOS 3.5-inch disk using the Apple File Exchange program that comes with every Mac. This step requires that your Mac be equipped with an FDHD (floppy-disk, high-density) drive, also known as a SuperDrive. Finally, import this text file into an MS-DOS database application, and then save it as an SDF file that the Postal Service can process. When your disk is returned, you reverse the steps to transfer the new database back to the Mac. It seems like a lot of work--but the results are definitely worth the effort.

#### TRUE SAVINGS: TIME AND MONEY

"By cleaning up our list--which is extremely laborious to do manually--the Postal Service makes our mailings much more efficient," explains Bill Viney, Jr., data-processing manager of Ice Machines Inc., a San Francisco-based distributor and reseller of restaurant equipment. "We mail over 1,000 pieces of third-class advertising per week to prospects--restaurants and dealers--culled from Bay Area phone books.

"The Postal Service even knows when places go out of business--no mean feat in the volatile restaurant industry. The only way we can find that out is to send a piece and have it returned, in which case we pay postage both ways. It's a heck of a lot cheaper for the Postal Service to tell us before we send out undeliverable mail," relates Viney.

Ice Machines maintains a list of more than 20,000 prospects on a 4-MHz 8088 IBM XT clone running an in-house database application. Each time a new regional phone book is released (approximately every two weeks), it is scoured for potential clients and the database is updated. Then the records for a particular region are dumped onto a 5.25-inch disk, which is sent to the Postal Service's local Address Information Systems facility in San Francisco. The correct Zip + 4 code is added to each record, and each address is checked and changed to make sure it conforms to postal regulations.

"Turnaround time averages two to three days," says Viney. "It took a bit longer in the beginning, but now we've worked out the kinks and basically have a turnkey system." When the disk is returned, the pristine information for the region is merged back into the master database.

#### POSTAL DISCOUNTS

Almost everyone is familiar with the ubiquitous universal product



code (UPC), the lines on most packaged goods. UPC bar codes help store clerks check your groceries quickly and accurately. Did you know the Postal Service also uses its own form of bar codes to sort mail?

For typewritten or computer-printed mail, the Postal Service machines read the address, determine the correct Zip + 4 code for each piece, and then spray a bar code along the bottom of the envelope. Another machine then sorts the mail by reading the bar code, which is simply a binary representation of the Zip + 4 code.

The new rate structure offers the largest discounts (up to 19 percent) for batches of prebarcoded mail because they can bypass the Postal Service machines altogether. Most business-reply mail already has the bar code printed along the bottom, but the capability to prebarcode no longer rests solely with big business. Several Macintosh envelope-printing utilities offer postal barcoding--programs such as MacEnvelope Plus (Synex, [718] 499-6293) and Kiwi Envelopes (Kiwi Software, [805] 685-4031). But remember, without the Zip + 4 information, there is no benefit to barcoding your mail in-house.

#### HOW TO GET THE BENEFITS

Even if you don't take full advantage of all the discounts that stem from using Zip + 4 codes on your computerized mailings, the benefits of the free database conversion are still sizable. Your database is standardized and sanitized. Your mail is delivered faster and more accurately. And last but not least, you're doing your part to keep postage rates from increasing because the more mail the Postal Service can process automatically, the lower the agency's costs.

#### MAKE YOUR MAIL POSTAL SERVICE READY

Unfortunately, there is too much mail taking too long to reach its destination. If the Postal Service's machines can't read a piece of mail that is improperly addressed, it must be manually sorted by postal employees at a slower pace. If you are not using your computer to prepare your mail for processing by the Postal Service's state-of-the-art automated equipment, you're missing an opportunity to increase the accuracy and efficiency of mail delivery and perhaps even lower your costs.

The easiest thing you can do to achieve more efficient mailings is to make your mail Postal Service-friendly. Just follow the following Postal Service guidelines when building your address database, formatting address labels, and printing envelopes. In fact, even if you're typing addresses directly onto envelopes, these guidelines will speed your mail on its way.

- \* Type or print out all address information.
- \* Use black ink on a white background.
- \* Maintain a uniform left margin.
- \* Use only uppercase letters.
- \* Omit all punctuation.
- \* Include floor, suite, or apartment numbers whenever possible.
- \* When mailing pieces with two addresses--a street address and post office box, for example--place the address where you want the mail delivered immediately above the bottom line.
- \* Put the city, state, and zip code in that order on the bottom line.
- \* Use standard two-letter state abbreviations.
- \* When using window envelopes, make sure the complete address is always visible, even when the insert moves.
- \* Leave one space between words and two spaces between the state abbreviation and the zip code.

Here are two examples: The first is wrong; the second is done the right way.

} The White House  
 } 1600 Pennsylvania Avenue  
 } Washington, D.C. 20001  
 } Attn: George Bush

4 GEORGE BUSH  
 3 THE WHITE HOUSE  
 2 1600 PENNSYLVANIA AVE  
 1 WASHINGTON DC 20001-0001

*name*

The Postal Service machine starts reading at the bottom of the

address and continues reading up six lines, or until it has enough information to correctly sort the piece. The fewer lines it must read, the faster the handling. With that in mind, the recipient's name should appear at the top of the address information, contrary to what many of us were taught in Typing 101. Furthermore, always place the zip code at the end of the last line, not on a line by itself. For even faster service, use the Zip + 4 code. OWEN W. LINZMAYER is a freelance writer based in San Francisco. His Zip + 4 code is 94122-3328.

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FILE SEGMENT: CD File 275

... address to a specific street, or even a particular department in a company. If you **type** a standard five-digit zip code on your **mail**, the **optical character recognition (OCR)** machine must read these numbers, plus the street-address information, and then consult its database...

...own Zip + 4 code, much less the equivalent codes for everyone to whom they send **mail**. That's where the Postal Service comes to the rescue.

Its Zip + 4 Conversion service...

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6/9,K/5 (Item 5 from file: 15)  
 DIALOG(R) File 15:ABI/Inform(R)  
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**Mission possible: Automating the U.S. Postal Service's mail processing system**

Peoples, June Eva

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1) ABSTRACT: Currently, 80% of the US Postal Service's budget is spent on labor to handle the mail. As mail volumes increase, USPS has 2 choices - either raise postal rates and expend more labor hours encoding and hand sorting, or automate to improve the efficiency, speed, and accuracy of mail delivery. USPS has chosen to automate. Two main areas requiring automation are "zip encoding" and carrier sorting. In 1993, RAF Technology teamed with USPS to improve the mail-sorting process. The result of this joint effort is 880 computerized mail recognition systems running RAF's software as a co-processor to the USPS's existing fleet of optical character readers at 240 Post Office processing sites nationwide. Elements that made this project successful include: 1. the RAF/USPS team approach, 2. great test decks and analysis methods, and 3. generic hardware.

2nd TEXT: The U.S. Postal Service receives 600 million mail pieces per day - 30 to 40 percent of the world's mail, the largest data capture stream in the world. Roughly 80 percent of the U.S. mail has a machine-printed address and 20 percent is handwritten. Mail comes in a wide variety of sizes and envelope colors. Locations of the address vary widely, plus there are low quality fonts and poor handwriting. On top of all this, creative envelope noise ("You may have won!") makes finding and reading the address correctly more difficult than reading most forms.

(OCR)

type of script  
 sizes  
 colors

Currently, 80 percent of USPS' budget (1997 revenue was \$58 billion) is spent on labor to handle the mail. As mail volumes increase, USPS has two choices --either raise postal rates and expend more labor hours encoding and hand sorting OR automate to improve the efficiency, speed, and accuracy of mail delivery. USPS has chosen to automate.

Two main areas requiring automation are "zip encoding" and carrier sorting. Zip encoding is the process of reading or typing the complete address so it can be interpreted by a computer into an 11digit fluorescent bar code that is sprayed on the envelope (See "Zip Codes" sidebar on p. 33). This code allows the mail to be mechanically sorted in the proper delivery order within the mail carrier's bag, automating the second task carrier sorting. USPS' goal is simple - to automatically read and spray a correct delivery point bar code on every mail piece. It estimates that every one percent of the mail stream that is automated represents annual savings of roughly \$10 million.

USPS' Legacy MLOCR System

(MLOCR)

The 240 Multi-Line OCR systems installed over a 10-year period by USPS represent one of the first attempts to automate mail encoding. Before reaching the main MLOCR sorting system, bulk mail that is pre-bar coded to nine or 11 digits is scanned and a reader finds the bar code and routes it. The rest of the non-bar coded mail is routed to the MLOCR system, which scans at up to 16 mail pieces per second at 212 dpi. The scanned images of machine-printed mail are "read" and compared to a directory of authentic addresses. When legacy MLOCR systems ran alone, they read about 50 to 55 percent of machine-printed mail and a negligible amount of the handwritten mail. The scan speed and belt speed are very fast (3 meters/sec), so that the "answer" for each piece of mail had to be known within a 1.2 second

1 \*

latency window - the time for each mail piece to reach the bar code sprayer on the belt.

Images of mail that were not successfully read were sent to an RCR (Reject Character Repair) system that can take lots of extra time to complete a read. Although RCR read some of the mail MLOCR missed, the bulk of this reject stream had to be sent to remote video encoding sites where key entry operators typed in the address until the system "locked" on the right address using the address directory. The keying process was slow and expensive.

(Chart Omitted)

X The USPS Mail Processing System In 1993 RAF Technology teamed with USPS to improve the mail-sorting process. RAF worked with the USPS recognition system group to design a new simplified hardware configuration for mail processing using standard off-the-shelf Pentium-based PC components and a freeware operating system. RAF adapted proprietary recognition technology to the special noise, font, and location problems found in mail, creating RAF Mail sup TM. RAF Mail became the heart of the new mail data capture system, which included other new technology funded by USPS - an address location module developed by SRI International and a handwriting module developed by State University of New York at Buffalo. The output of the RAF system is matched with results contained in a directory system manufactured by Bell & Howell.

The result of this joint effort is 880 computerized mail recognition systems running RAF's software as a co-processor to the USPS' existing fleet of optical character readers at 240 Post Office processing sites nationwide. All 880 systems were deployed during four months in 1997. The system reads and interprets addresses on more than 2 billion letters each month. (OCR)

The RAF system adheres to the same time window allotted to MLOCR, 16 mail pieces per second with about 1.2 seconds of latency time. Unlike RCR, which has lots of time to read mail off-line, the RAF co-processor system must read both hand and machine print in that time window.

The bottom-line?

The new USPS system reads on average more than 70 percent of the machineprint mail. 10 to 12 percent the old MLOCR didn't get, plus it reads more than 30 percent of the handwritten mail in real time. The addition of RAF software also changed what was a hardware-based system into a more flexible and easy-to-upgrade software-based system.

The RAF system is made up of one single and five dual PentiumPro 200s running as a Master connected to five Recognition Nodes. The system is connected to the existing MLOCR scanner as a bypass, in essence keeping all mail handling hardware (scanner, belts, sorters, bar code sprayer) functional, and just updating the "brains." The Master receives images from the scanner and sends them via 10Base-T Ethernet to whichever Recognition Node is free to read a new mail piece. A timeout stops a "read" from taking more than the allotted time. \*

RAF Mail (the core recognition technology) is written in standard C code, which is designed to be transportable. RAF recommended a freeware operating system, Linux, which was adaptable for this application and did not contribute additional expense.

(+) The new RAF/USPS co-processor system saves money by simply reading a lot more of the mail automatically and by making sure it is encoded early in the routing process. Savings result from the fact that much less key entry is needed and the earlier a mail piece can be encoded, the less labor is required to complete delivery. Estimated savings are about \$100 million.

annually.

#### Why Was This Project Successful?

The RAF/USPS team approach. The USPS team was made up of intelligent, experienced people who knew their own problem intimately. Team members had a sense of time urgency, full buy-in from management, and the freedom to make intermediate decisions and system changes along the way to obtain better and faster results.

Great test decks and analysis methods. The USPS team has done a thorough job of evaluating OCR /ICR performance on larger test decks. It has thousands of ground-truthed mail pieces and a detailed cost performance matrix so it knows exactly what each type of error costs. The huge financial payoff for automating mail recognition drove USPS to set up a continuous analysis mechanism so that every change in the software system was measurable - did it improve performance or not?

*cost pert*

With the huge volumes of U.S. Mail, the USPS saw everything. Since 600 million new examples arrive daily at USPS, just about any problem in recognition will quickly show up in the mail stream. Although USPS was careful about selecting test decks of randomly chosen mail, new problems emerged when the systems were beta tested in the field. For example, Publisher's Clearing House contest envelopes contain lots of random printing. When the first Florida beta system was installed near where these envelopes originated, RAF found that it was tough finding the correct address block in the midst of all the extra noise. USPS sent RAF sample rejects of those envelopes and RAF adjusted the filtering algorithms in the software so the address block was quickly found.

Generic hardware. Early in the project, both teams decided to stick with standard off-the-shelf Pentium-based hardware that could be bought anywhere at the best prices. The Master-Recognition Node network was designed to accommodate a variable number of nodes, so that as faster computers were introduced, fewer recognition nodes could be used to run the same volume of mail per time unit.

Portable software. RAF's software was developed to be highly portable and configurable so changes can be made quickly.

Use of dictionaries and directories. RAF Mail and other components of the system were designed to take full advantage of complex address dictionaries and directories throughout the process to get faster, more accurate answers.

The system had to work in real time. All components were developed, integrated, and tested using the real-time constraints presented by the MLOCR belt speeds.

#### System Payback

The U.S. Postal Service's co-processor project took advantage of equipment and hardware that was already in place, and added new software intelligence that made the existing system substantially more productive. The system's \$100 million year-one savings represent a payback period of about four months, contributing to the profit of about \$1.3 billion USPS realized in 1997. These funds are being used to reduce debt incurred in previous years. RAF worked closely with the USPS team to provide flexible core recognition technology tuned and customized to the mail stream. The read rates achieved by RAF Mail represent a next-generation step toward reaching the goal of automatically encoding all mail.

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...TEXT: test decks and analysis methods. The USPS team has done a thorough job of evaluating **OCR** /ICR performance on larger test decks. It has thousands of ground-truthed **mail** pieces and a detailed cost performance matrix so it knows exactly what each **type** of error costs. The huge financial payoff for automating **mail** recognition drove USPS to set up a continuous analysis mechanism so that every change in...

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**ABSTRACT:** The benefits generated by mailroom automation justify the investment in new systems and technologies even in small- to medium-sized mailrooms. Two cases are presented to illustrate this point. For Braintree, MA-based J.L. Hammet, the installation of an intelligent inserting system helped increase its monthly volume of mailpieces from 35,000 to 60,000. In addition, the company was able to consolidate its various mail processing centers and reduce the number of mail processing personnel to just one. For the Mail Marketing Group in Bristol, England, use of Bell & Howell's ADVANTAGE mail processing system enhanced the company's competitiveness by enabling it to provide its customers the speed and cost-effectiveness they require. The equipment also helped Mail Marketing to increase its output capability, minimize personnel involvement and increase profit margins.

**TEXT:**

When it comes to upgrading the mailroom operations for any business, the cost involved is often the determining factor. This is especially true where small- to medium-sized mailrooms are concerned.

It is often difficult to talk management into making an investment in the mailroom. However, the two following cases may help point out how really prudent these investments can be, no matter what your mailing volume. So if you think you're a small operation with a sporadic mail volume that couldn't possibly benefit from automation - read on.

#### SAVINGS, PRODUCTIVITY JUSTIFY INSERTING SYSTEM

Did you ever wonder whether or not the cost of an inserting system would be worth it in your mid-volume mail center? Some days the load is heavy and the need seems great; however, the next day things may slow down and the investment hardly seems worth it.

This was just how Jim Rochester, administrative manager for the J.L. Hammet Co. (Braintree, MA) felt about investing in a high-tech inserting system for the company's volume of 35,000 mailpieces per month.

"We installed an intelligent inserting system in our corporate offices less than a year ago, and it was immediately clear that the savings in labor alone would more than cover the lease cost," says Rochester.

Before the installation, Hammet was processing its mail by hand in Braintree and also in its three regional distribution centers. However, because there were very pronounced peaks and valleys in volume, none of the centers could support a full time mailing operation. Typically, one or two employees at each center would be pulled from their regular job each day to fold, insert, seal and mail customer invoices. Four or five others would be assigned at the beginning of each month to "process" statements - a task that took from two to five days, and some overtime.

"We tested the system in Braintree before we committed," says Rochester. "The Massachusetts pilot was so successful that we've consolidated all of our mail processing there. And just one employee handles the job easily - with the help of the inserting system."

The consolidated volume, according to Rochester, has now reached 60,000 mailpieces a month.

Rochester also notes that no employee has lost a job because of the new technology. "We're all just working a whole lot more efficiently at what we were hired to do. So the decision to invest has been prudent and beneficial from a number of standpoints."

#### MAKING THE DECISION

"We explored this from every angle," says Rochester. "This would be a big and unusual usual step for a company the size and scope of ours, and we had to make sure it made absolute sense before we took the plunge."

Rochester was concerned about things like size, cycle speeds, intelligence and other capabilities of the inserting system; the ease of accommodating additional applications, equipment service and operator training; document handling issues associated with existing forms; the mail finishing process; and the opportunity for saving postage plus other questions about USPS automation requirements now, and in the future.

Rochester turned to Paul Karl, production mail area representative, Pitney Bowes, and Christy Rose, the local Pitney Bowes Mailing Systems specialist, for help.

The review process took almost two years and included numerous on-site visits to see how other companies were handling similar applications and volume.

#### EXAMINE ALL OPTIONS

"We wanted Jim to look at every possible option from software and printers through the entire finishing process," says Karl. "For example, he was able to see first hand the tradeoffs between impact and laser printers, between cut sheet and continuous form inputs, and between in-line and off-line metering systems."

As a result, Rochester was able to specify a mailing system to meet Hammet's needs. The system consists of a high speed intelligent inserter along with a Paragon mailing machine. The inserter has a burster/accumulator/folder input, and two enclosure stations. Its built-in intelligence includes IDs of collation, ZIP deflect, and selective enclosure feeding.

The Paragon adds Weigh-on-the-Way (WOW) metering, and gives the capability for efficiently processing every day mail.

"Our invoices vary markedly from customer to customer in terms of number of pages and thus, weight," says Rochester. "The unique metering capability of WOW allows us to run everything in ZIP order and qualify for postage discounts we might otherwise miss."

The selective feeders, at this time, are used primarily for Business Return Envelopes, and enable Hammet to utilize a lock-box arrangement, which has had a positive effect on Hammet's cash flow, according to Rochester.

Pitney Bowes field engineers helped Rochester redesign Hammet's forms and envelopes so that everything would run smoothly. They also trained Hammet's designated operators so that they now have two people fully qualified to run every aspect of the system, and they can even handle minor service requirements.

Service has not, however, been a problem. "Uptime exceeds 99 percent," says Rochester. "And the few times we've needed help, the technician has been here well ahead of the guaranteed four-hour response."

In addition to the inserting system, Rochester has also installed mainframe software to enable ZIP + 4 bar-coding for additional postage savings, and has plans to add a sheet feeder to handle additional applications like promotional mailings.

"We also expect to increase our marketing efforts by taking advantage of the selective enclosure feeders on the inserting system," says Rochester. "It's a new opportunity for us, one we really hadn't anticipated."

#### THE SEARCH

Graham Cooper, operations director for the Mail Marketing Group (Bristol, England), was first attracted to inserting equipment because of the speed and potential for increased output that the technology offers.

Two years ago, the company purchased inserting equipment and nine months later, needed to invest in a second piece of equipment to handle time-sensitive documents. Not long after, Cooper required additional insert stations in order to service customers with huge mail volumes.

"We were looking for something that would deliver high speed on fairly simple packs," says Cooper. "We were really keen on the system when we



first heard of the product's ability to dramatically increase our processing capabilities."

The product to which Graham refers is the Bell & Howell ADVANTAGE TM mail processing system.

With no systems in place in his area, Cooper traveled to a trade show in Orlando, FL where Bell & Howell was demonstrating the system, and purchased a six-station system.

Cooper's initial production goal was two-and-a-half to three times the output of the existing equipment. Typical jobs in the first unit included straightforward, one-or two-insert mailings for mail order and retail accounts with high volumes and short lead times.

"We initially used the equipment for what we call 'advance mailers' or 'prenotification notices,' with fairly high volumes, ranging from one to three million items that have to get out the door quickly," says Cooper. "With the ability to run at around three times the speed of conventional equipment, the ADVANTAGE system offers our clients tremendous benefits in terms of speed and cost-effectiveness."

Cooper found that not only did the inserter meet his speed requirements, but that a second unit gave his company a "competitive edge on delivery times."

"If a client comes up to us needing to mail 500,000 pieces overnight, we have a real good chance of getting the business," says Cooper. ✓

"Previously, it might have taken us a week to get that kind of volume inserted. As a result, they probably would have taken their business elsewhere. Now that some of our customers - most retail outlets and a grocery chain - know of our capabilities, we're getting a good amount of business from emergency mailings."

#### (+) ADVANTAGES - AND THEN SOME

Cooper increased the system to eight stations when a customer who was mailing about 600,000 to 700,000 items a week, increased their volume to reach numbers that required seven insert stations. In response, Cooper went with eight stations to service this one requirement.

The new stations, however, also allowed Mail Marketing to bid on a major new business client that requires all eight stations to process more than 12 million pieces a year.

"It's an American company that is one of the largest mailers in the U.S., and they want to set up shop in the U.K. in a very big way," says Cooper. "We've seen the pack that they want to mail and it looks as if it has been designed for the ADVANTAGE system. It's what we call a C5 stretch pack that measures 12 inches by 6 inches. Having the system we have, once again, has given us a major competitive edge."

The Mail Marketing Group employs 400 people and 30 to 35 of those employees run the document processing equipment which includes 13 printers.

The company looks for jobs that require equipment to generate roughly 250,000 filled envelopes over a 24-hour period. Each day is broken down into two 8 or two 12-hour shifts, with an hour-and-a-half of stoppage on each shift for breaks and meals.

"The net output is well over 10,000 per hour," says Cooper, "but the real cycling time is about 15,000 to 16,000 per hour. Working on a double shift pattern, the new equipment enables an additional throughput of 1-1/2 million items per week."

Mail Marketing's customer base consists mostly of large financial institutions, insurance firms, retail outlets and other enterprises specializing in direct mail.

The older machines are still on the floor at Mail Marketing, and occasionally used, but current plans call for new systems to eventually be installed throughout the mailing operations center.

"The ADVANTAGE inserters have basically allowed us to take nine slow, chugging machines and replace them with three state-of-the-art inserters," says Cooper. "Along the way, we've doubled our output capability, reduced staff involvement and turned what was a very low margin business into a healthy one."

RELATED ARTICLE: POSTAL AUTOMATION: A History - and Future - of Improving Service

Those little vertical bars known as "barcodes" seem to be everywhere - even on mail. The automated sorting of the nation's mail, using barcodes, enables the Postal Service to provide the best service at the lowest possible cost. Automation provides for the most cost-effective, efficient and consistent mail sorting.

For the Postal Service, it all started in the early 1960s with the advent of ZIP codes. Since then we have seen the five-digit ZIP Code grow to a ZIP+4 or nine-digit ZIP Code. This numerical representation of an address led to the Postal Service's use of an Optical Character Reader (OCR) which barcodes and sorts mail. Today, using the nine-digit ZIP Code and the last two digits of the street address or box number, an 11-digit barcode is sprayed on the mail for finer sorting. This extended barcode allows the Postal Service to sort mail in the most cost efficient, reliable and consistent way.

\* For example, one OCR, operated by two people, can sort 35,000 pieces of letter mail an hour. It would take more than 40 people to do that manually. The actual dollar savings achieved through postal automation can best be demonstrated by the cost of sorting a thousand letters. To manually sort a thousand letters it costs \$42. To sort a thousand letters with mechanized equipment costs \$19. But, if you sort those letters with the Postal Service computer equipment, it costs only \$3. These cost savings are passed on to qualifying mailers as postage discounts for presorted and pre-barcoded mailings. (4)

In addition to the cost savings, automation reduces handling and the opportunity for error. Stamped, barcoded letters have a higher on-time delivery rate than non-barcoded letters. And as of Fiscal Year '94, 54 percent of First Class letters had a barcode applied by postal equipment or the customer. The Postal Service's goal to insure accurate delivery is 95 percent of all letter mail barcoded by 1997. The Postal Service expects 40 percent of barcodes will be applied by the customer and 60 percent by postal automated equipment.

Postal automation is not just a single machine. Since the early 1960s, the Postal Service has been steadily replacing manual and mechanized operations with hightech equipment. The following is a description of the automated sorting equipment that is currently being used to process today's mail.

Advanced Facer Canceler System (AFCS): This system faces, cancels, and sorts letter mail to one of seven separations, depending on the type of mail. Business reply mail is sorted at this point to capture and sort this mail quickly. All machine readable mail is taken to an OCR; pre-barcoded mail is taken directly to the Bar Code Sorter; and, script mail or other non-machineable letters are routed to the Letter Sorting Machines or Remote Bar Code Sorting System.

OCR: Scans an entire address on an envelope, determines or verifies the ZIP+4 code and applies a barcode. Each OCR contains a data base for every delivery address in the nation. Also built into the data base are national and local address "aliases," which are common misspellings or abbreviations. Examples - Peachtree St. and PTREE St; Dunwoody vs. DNWY or DNWDY. \*

Bar Code Sorter (BCS): Sorts letter mail according to barcodes previously applied to the letters into one of 100 separations based on the sort plan in use. A BCS can be operated by two employees at a speed of 35,000 pieces an hour.

Delivery Bar Code Sorter (DBCS): Sorts barcoded mail to the walk sequence of the carrier.

Remote Bar Code System (RBCS): Technology to apply barcodes to hand-written or otherwise automation unreadable letters. Currently 47 sites are on line. The Postal Service's plan is to have 268 networks on line by 1997.

Address quality is critical to timely and effective mail delivery. About 30 percent of addresses have some flaw - incorrect or incomplete information. The best advice to take advantage of postal automation is to address completely and correctly. Always use directionals, apartment and suite numbers, and street designators. This will help the Postal Service

maintain fast, reliable and efficient mail service.

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INDUSTRY CODES/NAMES: CMPT Computers and Office Automation

DESCRIPTORS: Office mail procedures--Automation; Mail sorting--Automation  
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**Title: Modeling the postal optical character reader**

Author(s): Hahn, P.M.; Randall, N.C.; Harley, T.J., Jr.

Author Affiliation: Philco-Ford Corp., Willow Grove, CA, USA

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Abstract: The ability of the **Optical Character Reader** to read a machine-printed address is dependent on many characteristics of the **mail** piece; e.g. color, print quality, type of envelope, and address format. Since the nature of the **mail**, in terms of these characteristics, can vary significantly from city to city, the selection of suitable installation sites is a difficult task. This paper describes the development of a mathematical model of the **OCR** system for use in evaluating candidate sites. The heart of the model is an equation that accurately predicts **OCR** performance from a relatively small sampling of the characteristics of the proposed source of **mail** at the site.

OCR

Subfile: B C

Descriptors: modelling; optical character recognition; pattern recognition; postal services; sorting

Identifiers: mail postal systems; optical character reader; mathematical model development; equation for prediction of performance of optical character reader; pattern recognition

Class Codes: B6140C (Optical information processing); C1250 (Pattern recognition); C5530 (Pattern recognition equipment)

Abstract: The ability of the **Optical Character Reader** to read a machine-printed address is dependent on many characteristics of the **mail** piece; e.g. color, print quality, type of envelope, and address format. Since the nature of the **mail**, in terms of these characteristics, can vary significantly from city to city, the selection of...

... is a difficult task. This paper describes the development of a mathematical model of the **OCR** system for use in evaluating candidate sites. The heart of the model is an equation that accurately predicts **OCR** performance from a relatively small sampling of the characteristics of the proposed source of **mail** at the site.

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12/9,K/2 (Item 1 from file: 148)  
DIALOG(R) File 148:Gale Group Trade & Industry DB  
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07478528 SUPPLIER NUMBER: 15611603 (THIS IS THE FULL TEXT)  
**Nuts 'n bolts: hands-on, how-to ideas you can take to the bank.**  
Target Marketing, v17, n7, p47(4)  
July, 1994  
ISSN: 0889-5333 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1121 LINE COUNT: 00087

**ABSTRACT:** Several tips for enhancing the effectiveness of direct mail campaigns are offered. To increase response rates, mailers are advised to use color rather than black type to accent their copy, pay close attention to the salutation, employ smooth stock instead of textured stock, place margin notes and/or teaser copy on the outside envelope, and use typewriter fonts such as courier. Mailers should also try to avoid common address problems, such as inadequate contrast, non-address related information placed below the delivery line and address that is printed in script type, slanted or covered by the window. To speed up mail delivery, lists should be standardized, go through a merge/purge program and run through a National Change Address program. Mailers should likewise add ZIP+4 to their mailings. A new service called 'FreeFone Information Network' is described for the benefit of data base marketers.

**TEXT:**

**DATABASE MARKETING**

**Paid to Listen**

Donald Libey and James Rule have suggested that the ideal database marketing scenario would be rewarding the prospect monetarily for listening to your offer (See Target Marketing, Dec. '93, p. 6).

Testing the waters of this new frontier is Seattle-based FreeFone Information Network, a service that allows prospects to call in and hear advertisements they're interested in--while earning money.

FreeFone is a voluntary service. Each time a subscriber taps into the system he or she is paid 15 cents--an incentive to subscribe. The fact that the messages a subscriber hears are so narrowly targeted to their interests is an added bonus. FreeFone is activated only when the caller desires. Depressing the number "2" and pound keys before dialing kicks-off a five-second message from the advertiser sponsoring the call. A subscriber may press the star key to access the information menu if they want to hear further information or choose not to respond and proceed with the call.

The messages the caller hears are specifically targeted to his wants, needs and interests. Each member gets a personal code, which identifies him as his call is routed through the FreeFone system and the appropriate advertisements selected. An advertiser pays anywhere from \$1.95 to \$3.20--depending on how narrowly it wants to target the subscriber base--per subscriber per month for 10 messages.

The subscriber's privacy is protected with FreeFone acting as a go-between. The system supplies information to both the subscriber and the advertiser without disclosing the identity of the subscriber. There is a one-time subscription fee of \$29.95, and customers must fill out a questionnaire with personal and buying information.

For more information about FreeFone, call (206) 682-3663.

**DIRECT MAIL**

**Production Tips**

Direct mail is a numbers game. Mere fractions of percentage points can translate into thousands of dollars in additional revenue if the gain is made on response rate or sales lift. Sometimes, seemingly minor changes in a mailing can have a significant impact on results.

Aileen Locke, direct marketing manager at The Financial Post Datagroup, in Toronto, suggests six production tips that can help squeeze the most response out of your package.

1. Accent your copy with color instead of black type. Color can be used in heads, subheads and signatures. A mailer promoting shoes found that

customers responding to copy with purple subheads outspent those who received copy with black subheads--by 12 percent.

2. How you greet your prospect in your salutation is another variable to test. In one case, a mailer addressed half his prospects as "Dear homeowner" and the other: "Dear customer." Response increased by more than one percent for the half addressed as "Dear homeowner," who outspent the "Dear customer" group by 22 percent.

3. Textured stock can hamper readability. Locke suggests opting for a smooth stock, which she says can retain up to 10 percent in sales volume and 0.5 percent in response rate.

4. Most direct marketers agree that using margin notes and/or teaser copy on the outside envelope will increase response. Not always so, says Locke, who in her experience has found it to dampen response. Locke advises testing to see what works for your particular audience.

5. Typewriter font such as a courier works best; sansserif type compromises readability.

6. When testing a self-mailer, Locke suggests splitting TABULAR DATA OMITTED the mailing and sending half in envelopes. In her experience, Locke has found that postcards altered slightly in format and mailed inside envelopes always out-pull self-mailers.

#### POSTAL

##### Common Address Problems

Preparing your mail so that it is automation compatible speeds up the processing of your mail while keeping postal costs down. Automated mail jumped from 16 percent to 49 percent of first-, second- and third-class mail in one year and is projected to rise to 64 percent by the end of the year. But to take advantage of automation, you must address your mail so that it is readable by the automation machines. Charles Messina, national account manager of the USPS, points out common address problems and how to avoid them.

Not enough contrast. The Optical Character Reader (OCR) reads a dark print on a light background best. If the background is too dark or the print too light, the OCR can't read the address and the mail piece is spit out of the system.

Address printed in script type. The OCR isn't able to read script or other "stylized" type. A sans-serif type is the best to use.

Address is covered by window. If part or all of the address is covered, the OCR will reject the piece. Make sure that the address is clearly visible through the window and that it doesn't shift.

Address is slanted or the characters touch. If characters are touching, the OCR can't tell when a word ends. The same holds true if address lines touch. The OCR needs vertical and horizontal spacing.

Non-Address Information within the OCR read area. Non-address related information located below the delivery line can confuse the OCR causing it to reject the mail piece.

##### Getting Mail Delivered

By increasing deliverability, eliminating duplication and qualifying for lower postage rates, direct mailers can mail both effectively and cost efficiently, says Marie Peeler of Mailing Services Inc., in Hillside, NJ.

\* Address correction and standardization. Lists must be standardized to be compatible with CASS (Coding Accuracy Support System) software. Five variations may exist on an abbreviation for one word. Use the USPS standard abbreviation.

\* Merge/purge. Running your list through a merge/purge program saves money by eliminating dupes.

\* ZIP+4 and carrier route appending. When adding ZIP+4 to your mailing, you must use CASS-certified software and your mailpiece must be automation compatible if it is not prebarcoded. To mail in carrier route sequence, your mailing must be sorted according to the latest carrier route information and your list must be presorted. Consult the Domestic Mail Manual for requirements.

\* National Change of Address. Running your list through a NCOA program will add address standardization and ZIP+4. Your mailing will get to the intended prospect in as timely a manner as possible.

\* Delivery point barcode. A delivery point barcode is an extended version of the ZIP+4 barcode with the last 10 bars representing the first two digits of the street address. Because the barcode is read instead of the printed address, prebarcoded mail doesn't have to meet OCR requirements.

COPYRIGHT 1994 North American Publishing Company  
SPECIAL FEATURES: illustration; graph  
INDUSTRY CODES/NAMES: ADV Advertising, Marketing and Public Relations  
DESCRIPTORS: Direct-mail advertising--Technique; Direct marketing--Technique; Database marketing--Information services  
PRODUCT/INDUSTRY NAMES: 7331300 (Direct Mailing Services)  
SIC CODES: 7331 Direct mail advertising services  
FILE SEGMENT: MC File 75

... dark or the print too light, the OCR can't read the address and the mail piece is spit out of the system.

Address printed in **script type** . The **OCR** isn't able to read **script** or other "stylized" **type** . A sans-serif **type** is the best to use.  
Address is covered by window. If part or all of...

## Amendments to the Specification

### I. TITLE

B1 Amend the Title as follows: METHOD OF CALCULATING SORTING COSTS FOR  
~~CHARGEBACK ACCOUNTING FOR AN INCOMING MAIL SORTING APPARATUS~~

### II. ABSTRACT OF THE DISCLOSURE

Amend the Abstract as follows:

B1 This invention overcomes the disadvantages of the prior art by providing a method of calculating sorting costs for incoming mail. The foregoing is accomplished by providing a method that can determine the number and types of mailpieces being sorted and associated that number with addressee information. The combination of the number and types of mailpieces being sorted for the addressees can then be used to calculate a charge back amount by using a predetermined cost per mailpiece. Thus, the present invention is directed to, in a general aspect, a method of calculating sorting costs for an incoming mail sorting apparatus having a database of addressees for use in sorting incoming mailpieces comprising the steps of: collecting information about each one of a plurality of mailpieces sorted using the incoming mail sorting apparatus, the information used to determine a type of mailpiece for each one of the plurality of mailpieces; determining the type of mailpiece using the information collected; and associating the information about each one of the plurality of mailpieces sorted using the incoming mail sorting apparatus with addressee information from the database of addressees; and calculating a piece count for each mailpiece for each addressee; ~~and calculating a charge back amount from the piece count and a predetermined cost.~~

### III. SPECIFICATION

- Amend the paragraph beginning at line 8 on page 1 as follows:

B3 Reference is made to Application Serial No. 09/474,908 (Attorney  
Docket No. E-969) titled METHOD OF REMOVING MAIL FROM THE MAILSTREAM



B3 USING A MAIL SORTING APPARATUS, assigned to the assignee of this application and filed on even date herewith.

- 
- Amend the paragraph beginning at line 11 on page 3 as follows:
- 

B4 This invention overcomes the disadvantages of the prior art by providing a method of calculating sorting costs for incoming mail. The foregoing is accomplished by providing a method that can determine the number and types of mailpieces being sorted and associated that number with addressee information. The combination of the number and types of mailpieces being sorted for the addressees can then be used to calculate a charge back amount by using a predetermined cost per mailpiece. Thus, the present invention is directed to, in a general aspect, a method of calculating sorting costs for an incoming mail sorting apparatus having a database of addressees for use in sorting incoming mailpieces comprising the steps of: collecting information about each one of a plurality of mailpieces sorted using the incoming mail sorting apparatus, the information used to determine a type of mailpiece for each one of the plurality of mailpieces; determining the type of mailpiece using the information collected; and associating the information about each one of the plurality of mailpieces sorted using the incoming mail sorting apparatus with addressee information from the database of addressees; calculating a piece count for each mailpiece for an addressee; and calculating a charge back amount from the piece count and a predetermined cost.

- 
- Amend the paragraph beginning at line 11 on page 3 as follows:
- 

B5 Fig. 3 is a flowchart of an embodiment of the method of calculating sorting charges. At step 120, the method begins. At step 122, the mailpieces are fed using the mail sorting apparatus 8. At step 124 the mailpieces are read and addressee information is determined. The addressee information could be for example, the addressee's name, delivery point code or other suitable information. At step 126, the type of mailpiece is determined. The mailpiece may be determined to be a letter, a flat, a postcard or other type of mailpiece distinguishable by length and thickness. At step 127, the type of addressee information is determined to be hand printed, hand script, machine print, interoffice, interoffice form or other distinguishable addressee information type.

1  
B  
The type of addressee information can be an important factor in determining sorting costs since certain information, such as hand script, can be more difficult to read using a scanner and OCR and thus, requires more processing time and cost more to process. At step 128, information regarding the mailpiece type and address information type is stored in the computer system 100 log file which associates the information with the addressee and/or the addressee's department or the like. The stored information is cumulative; thus, there will be a piece count for each mailpiece type and addressee information type associated with, for example, each department. The piece count is incremented by one each time it is determined that a sorted mailpiece falls into a particular category. That is, the category for the addressee and the total are incremented by one. At step 130, a query is made as to whether there are more mailpieces to be processed. If at step 130, there are additional mailpieces to be processed, the method continues from step 122 as described above.

- 
- o Amend the paragraph beginning at line 4 on page 5 as follows:
- 

B  
The computer system is connected to a sorting apparatus 8 as illustrated in Fig. 2. The mailpiece sorting apparatus 8 may generally comprise a feeder 10, a scanner 14 (and OCR software, now shown), a mailpiece transporter 16, compartments or bins 20 for receiving sorted mailpieces, and a control system which may be the microprocessor based personal computer system 100 described above. The system may be controlled by a microprocessor controller 100 such as, for example the personal computer 100 with a Pentium II™ microprocessor, which computer 100 is coupled to a database (memory devices) 50 as discussed below. The microprocessor can run an operating system such as a QNX operating system which provides real-time control of the components of the mailpiece sorting apparatus 8. The computer includes appropriate memory devices 108, 114 for storage of information such as an address database. One of ordinary skill in the art would be familiar with the general components of the sorting apparatus upon which the method of the present invention may be performed.

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?t s6/9,k/48

6/9,K/48 (Item 11 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01212538 SUPPLIER NUMBER: 04711369 (THIS IS THE FULL TEXT)  
**Labels printed by dot matrix stall U.S. mail.**  
Bridges, Linda  
PC Week, v4, n11, p4(1)  
March 17, 1987  
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 718 LINE COUNT: 00057

ABSTRACT: The U.S. Postal Service's optical-character-recognition (OCR) scanners cannot always identify business mailing labels that are produced by dot-matrix printers or computers. Consequently, the delivery of business mail may be not as accurate or as fast as it would be if customers adhered to the printed label criteria set by the postal service. OCR scanners have trouble reading low-contrast and low-resolution printing, unrecognized fonts, non-uniform character spacing, inaccurate bar-code printing, and inconsistent address formatting.

TEXT:

The United States Postal Service, embroiled in its attempts to automate its mail-sorting process, is having trouble scanning the business mailing labels that are generated by computers and dot-matrix printers.

As a result, business-mail delivery may be slower and less accurate than it could be if customers follow the postal service's criteria for printed labels.

The chances of the post office sending mail to the wrong address are small. Nevertheless, postal officials said that the optical-character-recognition (OCR) scanning devices currently used in most post offices nationwide cannot automatically read and sort a large percentage of the business mail that is computer-generated. And 80 percent of U.S. mail is business correspondence.

An OCR scanning device auto-matically reads machine-generated type and processes it.

"We cannot guarantee that mail will be delivered faster, but there will be a lower error rate and an improved consistency of delivery if customers follow our guidelines," said Dennis Smith, the manager and education specialist for the U.S. Postal Office of Training and Development here. "Also, the cost for processing would be less, and we would be able to maintain more stable postal rates."

Ewald E. Lang, senior vice president of document processing for ElectroCom Automations Inc., a Postal Service OCR manufacturer, explained that mail that cannot be read is rejected and is detained. "It is diverted into a manual sort and the delivery is slowed. This can also result in more expensive stamp prices."

Help on the Way

The Postal Service has hired approximately 250 employees across the nation to fill new positions as automation readability specialists (ARS). Their job is to alert customers to readability problems and offer assistance, according to Mr. Smith.

TeleVideo Systems Inc., a computer manufacturer in Sunnyvale, Calif., for example, was one of the hundreds of businesses to receive a detailed outline last month of problems the Postal Service was having processing its mail.

Specific OCR readability problems that have been detected are low-resolution and low-contrast printing, non-uniform character spacing, unrecognizable fonts, inconsistent address formatting and inaccurate bar-code printing.

To process the mail, the OCR readers scan envelopes to locate the address. If printed lightly, it cannot be read accurately. The scanner also

looks at the geometric shape of the lines formed by the address and scans the last line for city, state and ZIP code. If a blank line is left between the address and the city, state and ZIP code, the scanner can't read the address, Mr. Smith explained.

The scanners recognize more than 70 different type styles and break up the words so the information can be processed. If the spacing between characters is irregular--proportionally spaced or kerned (minute changes in the spacing between letters)--the scanner can't divide the words, postal officials said.

Other spacing problems occur when labels are printed from application software programs with a fixed data field for city, state and ZIP code, Mr. Smith said. If the data doesn't fill the fixed line, there is extra space; if the data is too long, there's not enough space for an accurate OCR read.

"The reason for the low recognition rate is because of the recognition technique that they use," said Gregory Boleslavsky, a senior development engineer for OCR Systems Inc., an OCR developer whose products are not used by the U.S. Post Office. "The post office is a clear case where typological shape analysis should be used instead of the matrixmatching technique or its derivative. There is a lot of mail, a lot of different typefaces and different point sizes."

New OCR scanners manufactured by Electrocom Automations are being installed in certain post offices. The new scanners are expected to correct most of the problems, but the Postal Service is only 30 percent into "phase two" of its automation and still uses many of the earlier machines.

Customers can get a free booklet called "A Guide to Business Mail Preparation" from local post offices that outlines the criteria for accurate and speedy mail processing.

Table: Guidelines for Printing Business Mailing Labels  
CAPTIONS: Guidelines for printing business mailing labels. (chart)  
COPYRIGHT 1987 Ziff-Davis Publishing Company

SPECIAL FEATURES: illustration; chart  
DESCRIPTORS: Labels; Printers; Dot Matrix Printer; Mail Processing;  
Automation; United States. Postal Service--Automation; Optical Character  
Readers; Scanning; Postal Service  
SIC CODES: 4311 U.S. Postal Service  
FILE SEGMENT: CD File 275

... that is computer-generated. And 80 percent of U.S. mail is business correspondence.

An **OCR** scanning device auto-matically reads machine-generated **type** and processes it.

"We cannot guarantee that **mail** will be delivered faster, but there will be a lower error rate and an improved...  
?

?t s6/6,k/1-64

**6/6,K/1 (Item 1 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

02120000 65137241

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**Imaging products**  
Dec 2000 LENGTH: 4 Pages  
WORD COUNT: 1861

...TEXT: electronically move the image through the organization as work is completed on it. With this **type** of processing the agency **scans** the incoming **mail** and then "routes it" or electronically delivers the document t( the workstation of the individual...

**6/6,K/2 (Item 2 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

02011013 52740000

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**Changing times in network security**  
Apr 17, 2000 LENGTH: 3 Pages  
WORD COUNT: 2216

...TEXT: contain profane, pornographic, racial, or sensitive content. The ASP also filters files attached to E- **mail** by **type**, so a company could, for example, ensure that a CAD file such as a chip...

**6/6,K/3 (Item 3 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

02001063 51496780

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**Microsoft developing PC tablet device**  
Mar 20, 2000 LENGTH: 1 Pages  
WORD COUNT: 481

...TEXT: said the developer, who requested anonymity.

"They're working with wireless device manufacturers on a **type** of portable phone, pager, Web, e- **mail**, **scanner**, fax device - not cell, from what I hear, but some other technology that will run...

**6/6,K/4 (Item 4 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

01914197 05-65189

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**E-mail, safe and sound**  
Nov 1999 LENGTH: 3 Pages  
WORD COUNT: 1788

...TEXT: s hopper. Then using a full qwerty keypad and a seven-line LCD screen, you **type** in your recipient's e- **mail** address, your e- **mail** address and a brief accompanying message. The 9100C then **scans** your document (at 15 pages per minute for blackand-white and 4ppm for color documents...

**6/6,K/5 (Item 5 from file: 15)**

DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

01677203 03-28193

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

⑤ **Mission possible: Automating the U.S. Postal Service's mail processing system**

Jul 1998 LENGTH: 5 Pages

WORD COUNT: 1538

...TEXT: test decks and analysis methods. The USPS team has done a thorough job of evaluating OCR / ICR performance on larger test decks. It has thousands of ground-truthed mail pieces and a detailed cost performance matrix so it knows exactly what each type of error costs. The huge financial payoff for automating mail recognition drove USPS to set up a continuous analysis mechanism so that every change in...

**6/6,K/6 (Item 6 from file: 15)**

DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

01614039 02-65028

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

**A closer look at scanners**

Apr 1998 LENGTH: 2 Pages

WORD COUNT: 1071

...TEXT: catalog, take a few minutes to assess your office's needs. What will be the scanner's primary function: graphics applications, data entry or digital storage? Do you need to be able to fax or e-mail scanned images or text? Compatibility between your needs and the type of scanner you purchase is critical. A few hours of preparation can save hours of lost productivity...

**6/6,K/7 (Item 7 from file: 15)**

DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

01528230 01-79218

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

**Scanning the horizon of scanners**

Oct 1997 LENGTH: 2 Pages

WORD COUNT: 1173

...TEXT: an envelope into a bill of materials, it can readily identify fill-in-the-blanks type of information from survey forms, mail order forms and product registration cards. This type of software is included in the systems marketed

⑥ **6/6,K/8**

**(Item 8 from file: 15)**

DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

01077878 97-27272

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

**Postal automation: A history - and future - of improving service**

Aug 1995 LENGTH: 2 Pages

WORD COUNT: 684

...TEXT: today's mail.

Advanced Facer Canceler System (AFCS): This system faces, cancels, and sorts letter mail to one of seven separations, depending on the type of mail. Business reply mail is sorted at this point to capture and sort this mail quickly. All machine readable mail is taken to an OCR ;

pre-barcode**d mail** is taken directly to the Bar Code Sorter; and, script **mail** or other non-machineable letters are routed to the Letter Sorting Machines or Remote Bar...

**6/6,K/9 (Item 9 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

01023853 96-73246

**Surprise! Fax servers smarten up**  
May 15, 1995 LENGTH: 2 Pages

...ABSTRACT: go beyond simple faxing. They are working with other office automation technologies, such as voice **mail**, **optical character recognition**, and file transfer. Examples of this **type** of integration include: 1. the integration of voice, fax, and visual data, 2. enhanced fax ...

**6/6,K/10 (Item 10 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

00886992 95-36384

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**Information overload**  
Feb 1994 LENGTH: 3 Pages  
WORD COUNT: 2341

...TEXT: possible to imagine that, with the proper access device, users can retrieve or send any **type** of **mail**. To facilitate universal access, technologies exist that transform messages from one media type to another ...

... include text-to-speech (voicing data), text-to-fax (faxing stored documents), fax-to-text (**optical character recognition**), voice-to-text (voice recognition) and voice-to-voice (translating voice-encoding schemes to play across different media, such as desktop stations or alternate voice-**mail** systems).

Achieving the promise of universal mail goes beyond its physical storage medium. Universal access...

**6/6,K/11 (Item 11 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

00848860 94-98252

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**Help desk primer**  
Mar 1994 LENGTH: 3 Pages  
WORD COUNT: 1586

...TEXT: moving toward tiered service contracts and guaranteed levels of service. An automated event monitor continually **scans** database activity, taking management-defined action, when a management-defined trigger has been reached. For...

... unresolved for more than two hours. Automated event monitoring can also be connected to e-**mail** and voice **mail** systems, pagers, and even alarms, depending on the **type** of event and nature of the company.

**AUTOMATED REMOTE UPDATES**

Remote offices will find ways...

**6/6,K/12 (Item 12 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

00671997 93-21218

**\*\*USE FORMAT 9 FOR FULL TEXT\*\***

**OLE-based image mgmt. software cuts time, costs**  
Feb 8, 1993 LENGTH: 2 Pages  
WORD COUNT: 403

...ABSTRACT: the server component stores and retrieves the images. To add an image to an e-mail message, users **type** the message as they normally would but then call in the image using a new "add object" menu option available on OLE-compliant e-mail packages. When "image" is selected as the object **type**, the OLE feature loads Watermark, and users can choose among any images that have been scanned into the package using either a dedicated workstation **scanner** or a network **scanner**.  
...TEXT: in the image using a new "add object" menu option available on OLE-compliant E-mail packages.

When "image" is selected as the object **type**, the OLE feature loads Watermark, and users can choose among any images that have been...

**6/6,K/13 (Item 13 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

00604190 92-19293

**The Postal Service Forges Ahead with OCR** ✓  
Mar 1992 LENGTH: 4 Pages

...ABSTRACT: research institutions. The Remote Bar Coding System (RBCS) is designed to automate the processing of **mail** that cannot be read by high-speed **optical character recognition (OCR)**. The Postal Service's optical character readers cost about \$800,000 each and have the capability to read print and **type** font on about 13 pieces of **mail** per second, then print a bar code on each piece. Westinghouse is currently building the...

**6/6,K/14 (Item 14 from file: 15)**  
DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

00241063 84-19623

**USPS Offers Its Customers Many Ways to Save Dollars**  
May 1984 LENGTH: 2 Pages

...ABSTRACT: postal programs to reduce postage costs. A critical factor this year will be machinability and **optical character recognition (OCR)** readability of **mail**. The USPS' guidelines for outgoing **mail** include: 1. proper addressing in clear, sharp **type**, 2. visibility of the entire address block when window envelopes are used, and 3. an...

...the page. The USPS wants mailers to use the Zip+4 codes on first-class **mail** and receive a discount for doing so; the discount is \$9 per thousand pieces for...

... third-class sections. The USPS' spread of package services, including overnight package delivery and Priority **Mail**, can also save mailroom dollars.

**6/6,K/15 (Item 15 from file: 15)**



DIALOG(R)File 15:(c) 2004 ProQuest Info&Learning. All rts. reserv.

15 00211759 83-23320

**Consider OCR Readability Problems**  
Apr/Jun 1983 LENGTH: 2 Pages

ABSTRACT: The US Postal Service has begun installing **optical character recognition (OCR)** address scanners, bar code printers, and bar code readers for **mail** sorting. The Postal Service has experienced several problems in its experience with prototype equipment. Forms...

...2. All address information, particularly city, state, and ZIP code, must be within the designated **OCR** read zone. 3. Extraneous printing should be eliminated. 4. A clear five-eighths-inch band...

... 5. For window envelopes, a one-quarter-inch band should be clear around the address. **OCR** equipment also has problems with filled-in characters, touching lines, bleed-through, variable print sizes, and **script type**.

6/6,K/16 (Item 1 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07973907 Supplier Number: 66520373 (USE FORMAT 7 FOR FULLTEXT)

**Multifaceted Multifunction.** (Multifaceted Multifunction - HP's OfficeJet K80 is an MFD that works with the Web.) (Hardware Review) (Evaluation)

Nov 2, 2000

Word Count: 1005

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...those of the OfficeJet G85 we looked at in September. It's a color printer, **scanner**, copier, and color fax all-in-one unit with a built-in sheet-fed **scanner** (the G85 has a flatbed **scanner**). It comes with a twist: you can use it to send and receive e-**mail**, though the feature's constraints may make it impractical. The front panel offers the typical...

...the major functions so the machine can work without your PC -- number of copies, paper **type**, "Color" and "Black" for fax, e-**mail**, and copy functions. The two-line LCD display panel's menu is easy to navigate...

...answer mode are part of the K80's feature set. Scanning and CopyingBy default the **scanner** can handle up to 600 x 1200 dpi (3600 dpi enhanced) **scans** in 36-bit color and 8-bit grayscale. There was one problem, however. While copies...

...but not great, output (the resolution drops to 600 x 600 for copies), using the **scanner** with the included ReadIRIS **OCR** package gave poor results. In fact, despite changing a variety of **scanner** settings, I wondered if typing the text from scratch would have been faster. That's...

...as ReadIRIS is quite accurate. You can "scan to" a variety of destinations, including e-**mail** and Word, either using the OfficeJet software's on-screen menu or the on-panel "Scan To" button. The TWAIN driver, for acquiring images from the **scanner**, was easy to use from the Windows applications I tested. The Web ConnectionAnother distinctive feature of the K80 is its ability to work with Netdirect, letting you print e-**mail** messages (so much for the paperless office), send documents to an e-**mail** address, and print web pages without a computer. There are several limitations to Netdirect; you...

...s the extra cost; you can scan a document and send it as an e-**mail** attachment now with very little difficulty, and unless your ISP or e-**mail** service provider charges by the message, there's probably no additional

cost to you, and there's little speed advantage to using Netdirect. To send an e- mail with Netdirect you must have the recipient's e- mail address entered into one of the speed dial settings (which you can do via software ...

...of bother and expense for very little payback. I also don't want my e- mail automatically printed - I'll be wasting paper and ink on spam. Having e- mail print automatically also means you can't use an e- mail client to manage your messages or keep a message archive. Conclusion The K80 also comes as...s capability to print from smart media is much more useful than Netdirect's e- mail interface. The MFD's are about equal in quality and speed when printing black text...

...Brother is faster (and better) at color printing, and it did a better job at OCR . The MFC 4700c remains our choice, but the K80 is a very, very close second.

6/6,K/17 (Item 2 from file: 16)  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07946775 Supplier Number: 66378192 (USE FORMAT 7 FOR FULLTEXT)  
**Multifaceted Multifunction. (Multifaceted Multifunction - HP's OfficeJet K80 is an MFD that works with the Web.) (Evaluation)**  
Oct 25, 2000  
Word Count: 1005

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...those of the OfficeJet G85 we looked at in September. It's a color printer, **scanner** , copier, and color fax all-in-one unit with a built-in sheet-fed **scanner** (the G85 has a flatbed **scanner** ). It comes with a twist: you can use it to send and receive e- mail , though the feature's constraints may make it impractical. The front panel offers the typical...

...the major functions so the machine can work without your PC -- number of copies, paper **type** , "Color" and "Black" for fax, e- mail , and copy functions. The two-line LCD display panel's menu is easy to navigate...

...answer mode are part of the K80's feature set. Scanning and Copying By default the **scanner** can handle up to 600 x 1200 dpi (3600 dpi enhanced) **scans** in 36-bit color and 8-bit grayscale. There was one problem, however. While copies...

...but not great, output (the resolution drops to 600 x 600 for copies), using the **scanner** with the included ReadIRIS **OCR** package gave poor results. In fact, despite changing a variety of **scanner** settings, I wondered if typing the text from scratch would have been faster. That's...

...as ReadIRIS is quite accurate. You can "scan to" a variety of destinations, including e- mail and Word, either using the OfficeJet software's on-screen menu or the on-panel "Scan To" button. The TWAIN driver, for acquiring images from the **scanner** , was easy to use from the Windows applications I tested. The Web Connection Another distinctive feature of the K80 is its ability to work with Netdirect, letting you print e- mail messages (so much for the paperless office), send documents to an e- mail address, and print web pages without a computer. There are several limitations to Netdirect; you...

...s the extra cost; you can scan a document and send it as an e- mail attachment now with very little difficulty, and unless your ISP or e- mail service provider charges by the message, there's probably no additional cost to you, and there's little speed advantage to using Netdirect. To send an e- mail with Netdirect you must have the recipient's e- mail address

entered into one of the speed dial settings (which you can do via software  
...

...of bother and expense for very little payback. I also don't want my e-  
**mail** automatically printed - I'll be wasting paper and ink on spam. Having  
e- **mail** print automatically also means you can't use an e- **mail** client to  
manage your messages or keep a message archive. Conclusion The K80 also comes  
as...s capability to print from smart media is much more useful than  
Netdirect's e- **mail** interface. The MFD's are about equal in quality and  
speed when printing black text...

...Brother is faster (and better) at color printing, and it did a better  
job at **OCR** . The MFC 4700c remains our choice, but the K80 is a very, very  
close second.

6/6,K/18 (Item 3 from file: 16)  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07939716 Supplier Number: 66296996 (USE FORMAT 7 FOR FULLTEXT)  
**Multifaceted Multifunction. (HP OfficeJet K80) (Hardware Review) (Evaluation)**  
Oct 23, 2000  
Word Count: 1005

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:

...those of the OfficeJet G85 we looked at in September. It's a color  
printer, **scanner** , copier, and color fax all-in-one unit with a built-in  
sheet-fed **scanner** (the G85 has a flatbed **scanner** ). It comes with a  
twist: you can use it to send and receive e- **mail** , though the feature's  
constraints may make it impractical. The front panel offers the typical...

...the major functions so the machine can work without your PC -- number of  
copies, paper **type** , "Color" and "Black" for fax, e- **mail** , and copy  
functions. The two-line LCD display panel's menu is easy to navigate...

...answer mode are part of the K80's feature set. Scanning and Copying By  
default the **scanner** can handle up to 600 x 1200 dpi (3600 dpi enhanced)  
**scans** in 36-bit color and 8-bit grayscale. There was one problem, however.  
While copies...

...but not great, output (the resolution drops to 600 x 600 for copies),  
using the **scanner** with the included ReadIRIS **OCR** package gave poor  
results. In fact, despite changing a variety of **scanner** settings, I  
wondered if typing the text from scratch would have been faster. That's...

...as ReadIRIS is quite accurate. You can "scan to" a variety of  
destinations, including e- **mail** and Word, either using the OfficeJet  
software's on-screen menu or the on-panel "Scan To" button. The TWAIN  
driver, for acquiring images from the **scanner** , was easy to use from the  
Windows applications I tested. The Web Connection Another distinctive feature  
of the K80 is its ability to work with Netdirect, letting you print e- **mail**  
messages (so much for the paperless office), send documents to an e- **mail**  
address, and print web pages without a computer. There are several  
limitations to Netdirect; you...

...s the extra cost; you can scan a document and send it as an e- **mail**  
attachment now with very little difficulty, and unless your ISP or e- **mail**  
service provider charges by the message, there's probably no additional  
cost to you, and there's little speed advantage to using Netdirect. To send  
an e- **mail** with Netdirect you must have the recipient's e- **mail** address  
entered into one of the speed dial settings (which you can do via software  
...

...of bother and expense for very little payback. I also don't want my e-  
**mail** automatically printed - I'll be wasting paper and ink on spam. Having

e- **mail** print automatically also means you can't use an e- **mail** client to manage your messages or keep a message archive. Conclusion The K80 also comes as...s capability to print from smart media is much more useful than Netdirect's e- **mail** interface. The MFD's are about equal in quality and speed when printing black text...

...Brother is faster (and better) at color printing, and it did a better job at **OCR**. The MFC 4700c remains our choice, but the K80 is a very, very close second.

**6/6,K/19** (Item 4 from file: 16)  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07823809 Supplier Number: 65298406 (USE FORMAT 7 FOR FULLTEXT)  
**ScanMaker 4700. (Microtek's mid-priced scanner) (Hardware Review) (Evaluation)**  
Sept 18, 2000  
Word Count: 797

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:

The ScanMaker 4700 is a flatbed **scanner** with a slide and filmstrip adapter included in the bundle. Microtek's ScanMaker 4700 offers...

...11" original took just 44 seconds, including saving the image to a TIF file. The **scanner** is relatively quiet - not as silent as some, but not a major distraction either. The...

...and printing your original in one step), and attaching a scanned document to an e- **mail** message. All worked flawlessly. The fourth button cancels the activity in progress, while the fifth...

...used for defining settings for the first three buttons). For the scan, copy, and e- **mail** buttons, you choose the **type** of input document, output **type** (color, black and white, etc.), and the application in which you want the scanned image...

...The LightLid 35 transparency adapter is the single disappointing feature. Looking like a large handheld **scanner**, the LightLid provides a light source for scanning filmstrips or 35mm slides only. It does...

...the bundle: Ulead PhotoImpact 5, Caere OmniPage Limited Edition version 5.1 (where you perform **OCR** tasks), Kodak Digital Science Color Management, Caere PageKeeper Standard (for organizing and finding scanned images...

...for creating web sites), and Adobe Acrobat Reader 4. This eight-pound, plug-and-play **scanner** is one of the few scanners these days that actually has a power switch on the back. You may not need it - the **scanner** is Energy Star compliant. The ScanMaker 4700 offers high-quality output, a wide array of...

**6/6,K/20** (Item 5 from file: 16)  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07521161 Supplier Number: 63041116 (USE FORMAT 7 FOR FULLTEXT)  
**Electronic Mailboxes Overflow as Banks Scramble to Improve Online Responses.**  
June 29, 2000  
Word Count: 1671

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:

...is struggling with an unforeseen service issue: how to cope with an avalanche of e- mail on everything from address changes to retirement planning to modem trouble. Bankers are not alone...

...the Internet research firm in New York, released a report last November that examined e- mail response times among 125 leading e-commerce businesses including banks. Almost half of the sites took five days or more to respond, never responded, or did not permit customer e- mail in the first place. The number of businesses with slow response times rose 8% in ...

...have acknowledged the issue and are spending money to improve the handling of customer e- mail . But the improvements are complicated and will come slowly. When the answers come, they will...

...how support is organized on the back end. Banks feel pressure to solve the e- mail problem fast. "If you go to the (bank's Web) site and don't get...

...in New Orleans. "We need to provide good customer service the first time." When e- mail first started floating in from Internet bank sites, the messages often wound up in traditional...

...banks, Mr. Bradway says, the numbers can hit up to 20,000 items of e- mail a month. Determining where all that mail should go is one of the first questions banks are trying to solve. Assigning responsibility...

...be asking too much of the staff. "Talking on the phone and writing an e- mail are different skill sets," Ms. Weed says. Hibernia's approach has been to hire staff with proven writing and typing skills and knowledge of e- mail etiquette. The bank encourages personalized responses that anticipate the customer's future needs based on the original e- mail . "We like to personalize the response so the customer realizes there is a person on...

...in one or two e-mails. The important thing is to avoid having that e- mail result in a phone call. "It takes longer to handle a phone call than write an e- mail ," says Chet Thompson, executive vice president and general manager of e-commerce at Huntington Bancshares...

...It's also less costly for us to answer at our leisure with an e- mail than to be on demand by phone." The \$28.4 billion-asset Huntington receives about...

...to enter private information such as account numbers or passwords better left out of e- mail for security reasons. Predetermined subject lines also clearly indicate where e- mail should go once received. Letting customers know what information to provide also means fewer follow...

...to customer interfaces that ensures customers give the data necessary to help banks process e- mail requests promptly. If customers, for example, want a copy of an old statement, a drop...

...Most banks say even Internet banking customers still use the telephone more often than e- mail to get help. One reason is that they worry messages will land in a black...

...helps allay those concerns. Hibernia uses an autoreply function that acknowledges receipt of an e- mail within one business day. "Then we do follow-up, even if it's just to...

...Atlanta, uses a product that ferries text messages sent late at night to a voice mail , where bank officers will see it immediately the next morning. "That raises a sense of...

...is one of several companies that have hit the market to help banks

manage e- mail . Vendor offerings include online self-help guides ...in e-commerce relationship management tools for the banking industry. As more customers use e- mail , banks have observed that many questions repeat themselves, giving rise to the use of autoresponders. This function scans incoming e- mail for keywords and returns messages with such information as branch hours and locations or rate...

...responder, Security First Network Bank in Atlanta eschews the practice. "We make sure all e- mail is personalized," says Debbie Wise, vice president of customer care. Integrating Internet service delivery with...

...histories on legacy systems. Without data sharing, a matter that comes up first in e- mail may then be a mystery to a platform officer when the customer pays a visit...

...a 'gotcha' that people haven't accounted for." While establishing the systems to manage e- mail is challenge enough for now, some banks have incorporated subtle marketing techniques into their Web...

...service. Security First trains customer service representatives to recognize cross-sell potential from common e- mail requests. An address change request, for example, prompts a reminder to order new checks. "Depending...

...pre-written product messages into customized e-mails. Linking a sales message to an e- mail dialogue already underway makes sense for banks worried about alienating customers who may consider an unsolicited sales message spam, the Internet version of junk mail . "We're not going to be sending customers coupons for free safe deposit boxes," says...

...the \$11 billion asset holding company for Michigan National Bank. "But we can answer e- mail queries with the type of personality that will engage the customer to go forward with us." The payoff for...

6/6,K/21 (Item 6 from file: 16)  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07340359 Supplier Number: 61952326 (USE FORMAT 7 FOR FULLTEXT)  
**CONTENT SECURITY -- FILTER IT OUT -- As companies move their businesses onto the Net, more unwanted content or viruses can creep in and out of corporate networks. The best strategy may be to outsource content security. (Product Information)**  
April 17, 2000  
Word Count: 2002

... to outsource content filtering to a company like AllegroMail.com, a messaging ASP that automatically scans files for keywords and phrases that contain profane, pornographic, racial or sensitive content. The ASP also filters files attached to e- mail by type . So, for example, a company could ensure that a CAD ( computer-aided design) file, like...

6/6,K/22 (Item 7 from file: 16)  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

07308361 Supplier Number: 61952761 (USE FORMAT 7 FOR FULLTEXT)  
**Changing Times In Network Security -- INTERNET AND E-COMMERCE HAVE OPENED UP MORE BREACH POINTS IN COMPANY NETWORKS. (Technology Information)**  
April 17, 2000  
Word Count: 1640

... content filtering to a company such as AllegroMail.com Inc., a messaging ASP that automatically scans files for key words and phrases

that contain profane, pornographic, racial, or sensitive content. The ASP also filters files attached to E- mail by type , so a company could, for example, ensure that a CAD file such as a chip...

**6/6,K/23 (Item 8 from file: 16)**

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

05735780 Supplier Number: 50215264 (USE FORMAT 7 FOR FULLTEXT)

**Electric Mail Co.'s E-mmunity Service Eliminates Virus Threat of Microsoft and Netscape E-mail Bug.**

July 31, 1998

Word Count: 704

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

VANCOUVER, BRITISH COLUMBIA--(BUSINESS WIRE)--July 31, 1998--The Electric Mail Co(VSE:ELE.) The Electric Mail Company Inc. (VSE:ELE), a leading E-mail Service Provider (ESP), announced today that its E-mmunity service protects corporate networks from the potential virus infection associated with the recently discovered "longfilename e- mail bug". The "longfilename e- mail bug", which may allow hackers to attack corporate networks with viruses and other destructive programs...

...security flaw in Netscape's Communicator software, Microsoft's Outlook Express and other popular e- mail programs. "E- mail attachment viruses are a serious concern to businesses and network administrators are assessing the risks associated with this reported bug. As a result of this e- mail bug, systems may be threatened by executable files that can run destructive programs or viruses that may cause serious damage. While E-mmunity does not filter executable type files, it automatically scans all Internet e- mail attachments and destroys viruses before they reach a company's e- mail system," said Cathy Munn, President and CEO of The Electric Mail Co.

**6/6,K/24 (Item 9 from file: 16)**

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

05722643 Supplier Number: 50197784 (USE FORMAT 7 FOR FULLTEXT)

**Today's Realtor Spotlights Home Office Ins and Outs, Online Mortgage Savvy**

July 24, 1998

Word Count: 572

Readers of Liparulo's article will learn how to make electronic mail more productive, which type of office lighting equipment works best, whether a scanner or copy machine is more suitable, how to dramatically cut computer costs, and whether to...

**6/6,K/25 (Item 10 from file: 16)**

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

05515223 Supplier Number: 48356926 (USE FORMAT 7 FOR FULLTEXT)

**HP Announces New OfficeJet Pro All-In-One Family; New HP OfficeJet Pro Series Offers Greater Speeds, Productivity, Photo-quality Prints.**

March 16, 1998

Word Count: 756

... the job, freeing the user for other tasks. The OfficeJet Pro 1175C color printer-copier- scanner comes with advanced PC-communication capabilities, allowing users to send hardcopy and electronic documents together in the same fax or e- mail . Pressing the "Scan-to-Fax" button on the front panel engages the Digital Document Communications...

...software on the PC. Once the scan is complete, the software prompts the user to **type** in a fax number or an e- **mail** address to send the information.

The OfficeJet Pro 1170C Series color printer-copier-scanner products

...

**6/6,K/26 (Item 11 from file: 16)**  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

05498628 Supplier Number: 48332363 (USE FORMAT 7 FOR FULLTEXT)  
**NeocorTech Announces Free Distribution of J-Text Japanese Word Processor**  
**For Windows**  
March 2, 1998  
Word Count: 414

... is included in all of Neocor's higher end productivity programs: machine translation and Japanese **OCR**. J-Text will allow users to **type** Japanese, send e- **mail**, and even look up specific Kanji.

"This is a great utility for those who need..."

**6/6,K/27 (Item 12 from file: 16)**  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

05214067 Supplier Number: 47953347 (USE FORMAT 7 FOR FULLTEXT)  
**MATERIAL HANDLING UPDATE: SIEMENS ELECTROCOM CAPTURES FLAT MAIL SORTER OCR CONTRACT**  
Sept 1, 1997  
Word Count: 373

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:  
...a \$29 million contract from the United States Postal Service (USPS) to deliver 814 flat **mail optical character recognition** (FMOCR) kits over the next year. The addition of Siemens ElectroCom's proven letter-**mail OCR** technology to existing ElectroCom flat **mail** sorters will allow the Postal Service to reap significant cost savings by optically reading more **mail** and eliminating the need to manually **type** in address information.

**6/6,K/28 (Item 13 from file: 16)**  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

04632598 Supplier Number: 46815188 (USE FORMAT 7 FOR FULLTEXT)  
**Pushing past paper pileups**  
Oct 21, 1996  
Word Count: 846

... automated document imaging, Zurich can streamline this process, Mr. Iordanou said.

Beginning Dec. 15, all **mail** for the more than 600 claims examiners in Zurich's 18 U.S. offices will come to the new Schaumburg distribution center. The **mail** will be opened and sorted into several groups, such as new claims, lawsuits, old claims with numbers and old claims without numbers. Each piece of **mail** will be tagged, identifying it by **type**.

The **mail** then will be inserted into a **scanner** that uses imaging to electronically convert a printed document into a digital document. Zurich has two scanners, one for single-sided documents and one that **scans** double-sided documents. Each machine can scan up to 144 pages per minute.

When the...



**6/6,K/29 (Item 14 from file: 16)**  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

04531575 Supplier Number: 46658362 (USE FORMAT 7 FOR FULLTEXT)  
**Kodak's Low-End Color Scanner 08/27/96**  
August 27, 1996  
Word Count: 421

... Power Goo, and PictureWorks Technology Inc.'s Photoenhancer Special Fun Edition software.

"The Snapshot Photo **Scanner** 1 allows anyone, even first time PC users, to share their pictures as easily as they **type** a letter or send e-mail," said Janet Anderson, product line manager, scanners. "Simply feed in a print and Kodak technology...

**6/6,K/30 (Item 15 from file: 16)**  
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

04526995 Supplier Number: 46651433 (USE FORMAT 7 FOR FULLTEXT)  
**New Kodak Snapshot Photo Scanner provides consumers with high-quality pictures on computers.**  
August 26, 1996  
Word Count: 367

... flyers, calendars and party invitations and print them on desktop inkjet printers.

"The Snapshot Photo **Scanner** 1 allows anyone -- even first time PC users -- to share their pictures as easily as they **type** a letter or send e-mail," said Janet Anderson, product line manager, scanners. "Simply feed in a print and Kodak technology...

**6/6,K/31 (Item 1 from file: 148)**  
DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

08273603 SUPPLIER NUMBER: 17617508 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**EPSON exhibits new vertical market portable system terminals; combines 486DX capability, two type III PC Card slots and a host of integrated options in a form factor smaller than a cigar box.**  
Nov 13, 1995  
WORD COUNT: 586 LINE COUNT: 00054

Designed for a wide range of requirements, these lightweight VGA screen computers feature two **Type** III PC Card slots, e-mail and modem capabilities, can combine integrated options (docking station, printer, magnetic card reader, laser **scanner**) and provide users the flexibility they need to run DOS, Windows, Windows 95 and UNIX...

**6/6,K/32 (Item 2 from file: 148)**  
DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

08128561 SUPPLIER NUMBER: 17403453 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Mailroom automation: not just for large-volume mailers. (includes related article)**  
August, 1995  
WORD COUNT: 2427 LINE COUNT: 00195

... today's mail.

Advanced Facer Canceler System (AFCS): This system faces, cancels, and sorts letter **mail** to one of seven separations, depending on the **type** of **mail**. Business reply **mail** is sorted at this point to capture and sort

this **mail** quickly. All machine readable **mail** is taken to an **OCR** ; pre-barcoded **mail** is taken directly to the Bar Code Sorter; and, script **mail** or other non-machineable letters are routed to the Letter Sorting Machines or Remote Bar...

**6/6,K/33 (Item 3 from file: 148)**

DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

07166922 SUPPLIER NUMBER: 15003522 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Software 'agents' will make life easy. (General Magic unveils Telescript, software language that facilitates electronic shopping) (Column) (Information Technology)**

Jan 24, 1994

WORD COUNT: 1068 LINE COUNT: 00082

...ABSTRACT: be available as a commercial service in the late 1990s. A related service, Telescript E- **mail** , which allows users to **type** in phone numbers instead of complicated E- **mail** addresses when sending messages, will be available in 1994. Telescript E- **mail** will be offered by AT&T, one of General Magic's financial investors.

**6/6,K/34 (Item 4 from file: 148)**

DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

06728420 SUPPLIER NUMBER: 14401893 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Optical character reading machines: the new generation. (use of scanners for reading for the blind)**

Sept, 1993

WORD COUNT: 1757 LINE COUNT: 00129

...ABSTRACT: limitations, it is important that such disabled people have a means of understanding their own **mail** . Braille, large- **type** and audio books are desirable for pleasure reading, but there are other things people need...

**6/6,K/35 (Item 5 from file: 148)**

DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

06475115 SUPPLIER NUMBER: 13929654 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Production, environment drive steady bag market. (What's New Focus: Bagmaking)**

April, 1993

WORD COUNT: 6188 LINE COUNT: 00491

... including: bottom-gusseted stand-up; three-side seal; reclosable zipper; flat or side-gusseted pillow **type** ; back-seam bag; priority **mail** envelopes; antistatic pouches; medical pouches; and packaging-list enclosures. Plastic pouches are said to offer...

...and pneumatically loaded pressure rollers, servo-driven draw rolls, dual brushless servo motors, two photo- **scanner** systems for registration of two lanes of printed material, independently adjustable solenoid driver circuits or...

**6/6,K/36 (Item 6 from file: 148)**

DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

06116488 SUPPLIER NUMBER: 12628145 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Postal Center offers discounts: businesses must be willing to automate process. (Metro News)**

August 17, 1992

WORD COUNT: 799 LINE COUNT: 00059

... is offering advice and discounts on rates in exchange for businesses installing coding on company **mail** or using a **type** on labels readable to a computer **scanner** .

Representatives at the U.S. Postal Service Business Center on South State Street in Jackson...

**6/6,K/37 (Item 7 from file: 148)**

DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.

01901471 SUPPLIER NUMBER: 02895212 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Atlantic National Bank of Jacksonville orders TRACE 1000s from Recognition Equipment.**

Aug 29, 1983

WORD COUNT: 268 LINE COUNT: 00023

... are used for data entry, document processing and the management of information. Its systems employ **optical character recognition** , magnetic ink character recognition, image capturing, high-speed paper handling, ink-jet printing, local area...

...of applications including high-volume processing of documents such as credit card tickets, checks, currency, **type** -written pages and letter **mail** . /CONTACT -- Jenny Haynes Barker of Recognition Equipment Inc. at 214-579-6024/

**6/6,K/38 (Item 1 from file: 275)**

DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

02432414 SUPPLIER NUMBER: 65161429 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Running Windows Me Gold! (Column) (Editorial)**

June 30, 2000

WORD COUNT: 3823 LINE COUNT: 00278

TEXT:

...Insider Q&AProduct Beat - Opera 4.0Link of the WeekWhy You Said 'No' to HTML- **mail** Tag ConfusionGoing to the ChapelErrata, with a WarningTips of the WeekSubscribe, Unsubscribe, or Change Your...

...WIA) should make scanning a better proposition (but only if you have a WIA-compatible **scanner** ). Windows MovieMaker is a useful tool for cataloging and refining home movies and digital still...jury is out for me on whether Opera's decision to add a new e- **mail** module was worth all their hard effort.>> Back to the TopLink of the Week - SolventWant...

...really is very lightweight, and the HTML version loads quickly in your browser or e- **mail** package.If, however, Winmag.com receives a banner ad in Insider (plans call for never...

...to serve that ad. I'm not going to send you the bitmap in the **mail** . Newsletters are not an inexpensive endeavor. The ads pay for them; without ads, any free...nothing happens when you click those subhead links, or worse, that your browser or e- **mail** program crashes or locks up, please let me know about. Tell me what version of IE is installed on your system, and what e- **mail** package or other client you're reading the newsletter with.The second problem that many...

...now. Again, let me know if this has happened to you. Please send the e- **mail** address you're subscribed with, and state the name of the newsletter (presumably Windows Insider...

...on our subscription form.It's probably worth mentioning that you can change your e- **mail** subscription from Text to HTML (or vice versa) at our Change Address page.To do that, copy the \*exact\* e- **mail** address that you're currently receiving the newsletter to from the bottom of any received...

...the text that reads "You are subscribed as:" and paste it into the Old E- **mail** Address field. Put a check mark beside the version you want to change to under...

...the Submit button. Ninety percent of the time, subscription problems are traced back to e- **mail** address entry problems. Case sensitivity is an issue.Why Do I Care about HTML?Many...

...you had excellent reasons for not subscribing to the HTML version. You use an e- **mail** program that doesn't support HTML, or doesn't support it well. You find the...

...scan it. I don't talk about it much, but I get amazingly kind e- **mail** from grateful readers who tell me they read every word. But let's face it ...

...might want to at least try the HTML version.Enough said.>> Back to the TopE- **mail** Tag ConfusionSince last week I've received several e-mails like this one, from network...

...week with Outlook 2000.Meanwhile, several other people wrote to say that the new e- **mail** rules tag did not work in Outlook Express, Outlook 98, or Outlook 2000. At this...

...on. Robert Lanthier brings up a good point about the message formats. The new e- **mail** rule tag is precisely the same in the HTML and Text versions of the newsletter...

...you that should stay constant for at least the next several months. If the e- **mail** tag does not work for you, create an e- **mail** rule or filter that searches the From: line of incoming messages for this string of text:wininsider@ **mail** .Omm.comI suggest that you copy and paste it from the newsletter into your **mail** -filtering rule. But if you must **type** it, that's a zero in there, not a capital letter O.>> Back to the...

**6/6,K/39 (Item 2 from file: 275)**

DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

02432124 SUPPLIER NUMBER: 65161584 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Welcome to Ethernet U. (Welcome to Ethernet U. - In my day, we had typewriters and a pay phone in the dorm hallway. And we were too drunk to hate it!) (News Briefs)**

August 29, 2000

WORD COUNT: 927 LINE COUNT: 00085

TEXT:

...down and type my masterpiece. And just this morning, Ryan sent me an emergency e- **mail** asking me to recommend a laptop for his roommate who's been using his desktop...

...from over 225 file formats.Visioneer 6200 USBTake a look at a low-cost flatbed **scanner** with a good software bundle and fine performance. Toshiba PDR-M70Good feature set for still...Click "Choose an option," and select Subscribe or Unsubscribe. Scroll back to the top and **type** your e- **mail** address in the "E- **mail** " field. Click the Submit button below your e- **mail** address. That's it.TO CHANGE YOUR E- **MAIL** ADDRESSTo change your e- **mail** address for an existing subscription, use the Newsletter Change of Address

form:http://www.winmag...

**6/6,K/40 (Item 3 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

02115019 SUPPLIER NUMBER: 19868278 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Law firm states case for imaging. (personal injury law firm Finkelstein, Levine, Gittelsohn & Tetenbaum uses an imaging system running on IBM's AS/400) (1997 Achievements in IS Award Winner) (Company Operations)**  
Sep 26, 1997  
WORD COUNT: 1040 LINE COUNT: 00083

... also directed to important details, by page and paragraph number, in the actual document.

As **mail** comes in, staff separate it by attorney and **type** of document. It then goes to the scanning station, and through use of a Bell & Howe duplex **scanner**, is entered into SpyImage at a rate of 60 pages per minute. It goes into...

**6/6,K/41 (Item 4 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

02087744 SUPPLIER NUMBER: 19433658 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Anti-virus software for SMTP gateways and firewalls. (Symantec's Norton AntiVirus for Internet E-mail Gateways and Norton AntiVirus for Firewalls) (Brief Article) (Product Announcement)**  
June, 1997  
WORD COUNT: 344 LINE COUNT: 00032

NAV for Internet E- **mail** Gateways installs on an organization's SMTP gateway and **scans** all SMTP **mail** that passes through it. The application provides separate and configurable virus scanning policies for inbound...

...virus occurs in a new file extension, administrators add the extension. NAV for Internet E- **mail** Gateways then **scans** traffic that contains that file **type**. In addition, the application **scans** ZIP, uuencode, and MIME files and uses a multithreaded scanning system to handle multiple simultaneous...

**6/6,K/42 (Item 5 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

02074532 SUPPLIER NUMBER: 19520542 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Stop network attacks. (tools for stopping computer viruses) (includes related article on viral strains) (Technology Information)**  
July, 1997  
WORD COUNT: 2856 LINE COUNT: 00223

... and Internet Explorer with no problem.

The second feature is built-in support for e- **mail** scanning. This lets you configure **scans** specifically for e- **mail**; the **scans** are performed as **mail** is received. Just point the program to where you store local system e- **mail**, and **type** in the file extensions the e- **mail** uses. You can also configure ViruSafe to scan specific directories; so if a user's e- **mail** system sends attachments to a predefined directory, the program will scan that directory as it...

**6/6,K/43 (Item 6 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

02045871 SUPPLIER NUMBER: 19210943 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**First line of defense. (three network anti-virus gateways reviewed)**  
**(includes related articles on Editors' Choice, macro virus threats,**  
**Symantec's gateway-scanning option) (Network Edition) (Software**  
**Review) (Evaluation)**  
April 8, 1997  
WORD COUNT: 3487 LINE COUNT: 00271

... effective antivirus gateway.  
MIMESweeper runs on Microsoft Windows NT 4.0 as a service. It scans inbound and outbound e-mail messages and their attachments with validators, which are modules you can configure to search e-mail text, examine attachment type and size, or quarantine inbound and outbound e-mail based on sender, recipient, or domain. When MIMESweeper detects an infected attachment, it sends e-mail alerts to the sender, recipient, and administrator, or deletes or quarantines the infected file.  
Unlike...

**6/6,K/44 (Item 7 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

01975842 SUPPLIER NUMBER: 18641645 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Kodak's Low-End Color Scanner.**  
August 27, 1996  
WORD COUNT: 440 LINE COUNT: 00037

... Power Goo, and PictureWorks Technology Inc.'s Photoenhancer Special Fun Edition software.

"The Snapshot Photo Scanner 1 allows anyone, even first time PC users, to share their pictures as easily as they type a letter or send e-mail," said Janet Anderson, product line manager, scanners. "Simply feed in a print and Kodak technology...

**6/6,K/45 (Item 8 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

01929253 SUPPLIER NUMBER: 18218982 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Antivirus utilities. (nine anti-virus packages) (includes related articles on the editors' choices, and on the performance testing) (The Ultimate Utility Guide) (Software Review) (Evaluation) (Cover Story)**  
May 14, 1996  
WORD COUNT: 5779 LINE COUNT: 00446

... copy is performed, followed by a file copy error message. Also, no support for e-mail or any type of external notification exists.

Ultimately, IBM AntiVirus offers good virus protection but gives modest Windows...

**6/6,K/46 (Item 9 from file: 275)**  
DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

01627529 SUPPLIER NUMBER: 14625713 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**A new evolution in OCR software: Calera adds speed and a colorful interface to its impressively accurate and easy-to-use OCR package. (Calera Recognition Systems' WordScan Plus 2.0 optical character recognition software) (Software Review) (Evaluation)**  
Dec, 1993  
WORD COUNT: 807 LINE COUNT: 00064

... Simple SETUP  
Setting up the program is extremely easy. It asks for a FAX source,

**scanner type** , and preferred E- **mail** --cc: **Mail** and Microsoft **Mail** are the choices. In an ideal world, where all FAX transmissions are clean, WordScan Plus...

...up the message, converts it to formatted text, and sends it off to your E- **mail** -reachable associates. In the real world, you'll want to step in from time to...

6/6,K/47 (Item 10 from file: 275)

DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

01391079 SUPPLIER NUMBER: 09685277 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Put your mail on the fast track; the Postal Service will enhance your mailing-list database for free. (Software Solutions; includes related article titled 'Make your mail Postal Service ready')

Dec, 1990

WORD COUNT: 1902 LINE COUNT: 00143

... address to a specific street, or even a particular department in a company. If you **type** a standard five-digit zip code on your **mail** , the **optical character recognition (OCR)** machine must read these numbers, plus the street-address information, and then consult its database...

...own Zip + 4 code, much less the equivalent codes for everyone to whom they send **mail** . That's where the Postal Service comes to the rescue.

Its Zip + 4 Conversion service...

ok

6/6,K/48 (Item 11 from file: 275)

DIALOG(R)File 275:(c) 2004 The Gale Group. All rts. reserv.

01212538 SUPPLIER NUMBER: 04711369 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Labels printed by dot matrix stall U.S. mail.

March 17, 1987

WORD COUNT: 718 LINE COUNT: 00057

... that is computer-generated. And 80 percent of U.S. mail is business correspondence.

An **OCR** scanning device auto-matically reads machine-generated **type** and processes it.

"We cannot guarantee that **mail** will be delivered faster, but there will be a lower error rate and an improved...

✓

6/6,K/49 (Item 1 from file: 9)

DIALOG(R)File 9:(c) 2004 Resp. DB Svcs. All rts. reserv.

2229803 Supplier Number: 02229803 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Motorola Licenses Tegic Software

August 17, 1998

WORD COUNT: 515

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...percent of wireless customers use SMS. In fact, there is more SMS traffic than voice- **mail** traffic, and voice **mail** has been the most profitable ancillary service of wireless. SMS looks like the first viable challenge to voice **mail** ."

photo omitted

To reduce the number keystrokes required to **type** a particular word on a

handset keypad, T9 scans the context of the entry and...

**6/6,K/50 (Item 2 from file: 9)**

DIALOG(R)File 9:(c) 2004 Resp. DB Svcs. All rts. reserv.

1170636 Supplier Number: 01170636

**Graustufenscanner fuer Archivierung**

April 14, 1995

ABSTRACT:

...Office document capture, processing and management solution. The new solution features an 8-bit greyscale **scanner**, which offers a resolution of 300 dpi. The **scanner** is bundled with the Page Manager software package, which comprises Page Image image processing, Page File storage and Page **Type** editing modules, as well as character recognition, E- **mail**, fax and printing modules. Cost: DM777. ...

**6/6,K/51 (Item 1 from file: 20)**

DIALOG(R)File 20:(c) 2004 The Dialog Corp. All rts. reserv.

13304200 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Jobstreet the human capital market**

October 16, 2000

WORD COUNT: 1616

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... said.

That is why, Chang said, the company came up with features like LINA e- **mail** matching. "You type in your preference and LINA emails you all the jobs that fit your criteria. It acts as a **scanner** for you and you can decide what you want."

Chang took to task some of...

**6/6,K/52 (Item 2 from file: 20)**

DIALOG(R)File 20:(c) 2004 The Dialog Corp. All rts. reserv.

12644089 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Fingerprinting for security conscious**

SECTION TITLE: FEATURES

August 31, 2000

WORD COUNT: 241

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... Mustek says its new Bearpaw 1200 Scanner is the easiest-to-use tool of its **type** on the market. The **scanner** can e- **mail**, fax, copy, print, or scan at the touch of a button. Users also get a...

... page and confidential Web address to upload pictures for friends and family to use. The **scanner** comes with Corel Print Office 2000.

The Bearpaw 1200 is a 42-bit 600 x...

**6/6,K/53 (Item 3 from file: 20)**

DIALOG(R)File 20:(c) 2004 The Dialog Corp. All rts. reserv.

09478768 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Jumping a marketing hurdle**

The local genius of WizCom gets a boost in the burgeoning technology of cellphone accessories



SECTION TITLE: Features  
February 08, 2000  
WORD COUNT: 1731

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... Nokia 9110 "Communicator." Users of this 270-gram phone can surf the Web, send e- **mail** , receive faxes and **type** messages on a miniature keyboard.

**6/6,K/54 (Item 4 from file: 20)**  
DIALOG(R)File 20:(c) 2004 The Dialog Corp. All rts. reserv.

04037014 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**A bug's life force**  
January 18, 1999  
WORD COUNT: 844

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... programs or viruses that may cause serious damage."  
While E-mmunity does not filter executable **type** files, she adds, it automatically **scans** all Internet e- **mail** attachments and destroys viruses before they reach a company's e- **mail** system.  
When an organization subscribes to E-mmunity, The Electric Mail Co.'s E-mmunity...

**6/6,K/55 (Item 5 from file: 20)**  
DIALOG(R)File 20:(c) 2004 The Dialog Corp. All rts. reserv.

02538742 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**HEWLETTPACKARD: HP announces new OfficeJet Pro family**  
August 17, 1998  
WORD COUNT: 700

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... complete, the software prompts the user to type in a facsimile number or an e- **mail** address to send the information. The OfficeJet Pro 1170C Series colour printer-copier- **scanner** products are compatible with Microsoft Windows, 95, 98, NT, and 3.1, and DOS.  
About...

**6/6,K/56 (Item 1 from file: 610)**  
DIALOG(R)File 610:(c) 2004 Business Wire. All rts. reserv.

00235848 20000316076B4123 (USE FORMAT 7 FOR FULLTEXT)  
**Pitney Bowes Introduces M3 Mixed Mail Manager; Automates Time Consuming, Labor Intensive Process for More Efficient Handling of Incoming Mail**  
Thursday, March 16, 2000 10:47 EST  
WORD COUNT: 606

TEXT:  
...and results from the  
recently announced strategic alliance with Siemens ElectroCom.

The M3(TM) Mixed **Mail** Manager is a system designed to automate the processing of the highly diverse mix of **mail** coming into today's corporate **mail** centers such as postcards, letters, flats and magazines. Targeted for medium to

large-sized companies processing between 2,500 and 25,000 pieces of **mail** per day, this system reads all incoming addresses, including handwritten and interoffice **mail**, dramatically reducing the need for manual sorting. The M3(TM) System also provides valuable reports that allow companies to monitor

**mail** volume and **type** by department for improved planning and cost management, which are critical for improving mailroom operational efficiency. The M3(TM) Mixed **Mail** Manager is being introduced at the National Postal Forum from March 19 -22.

"The new M3(TM) System is a joint effort that brings together two global **mail** leaders," said Charlene Malone, Vice President and General Manager, Incoming Messaging Solutions. "Through the combination of Pitney Bowes' sophisticated feeder and software applications and Siemens ElectroCom's advanced **optical character recognition** and sorter technology, we have set a new standard in incoming **mail** automation and provided our customers with a powerful tool to meet their complex needs."

**6/6,K/57 (Item 1 from file: 624)**

DIALOG(R)File 624:(c) 2004 McGraw-Hill Co. Inc. All rts. reserv.

00771827

**Internet: Useful tool or sticky web?**

June 1996

Word Count: 1,823 \*Full text available in Formats 5, 7 and 9\*

TEXT:

... forms or the latest virus-checking software to anyone with an E-mail address.

E- **mail** reply is also valuable. Do your foremen want to run infrared **scans** on any substations, and if so, which stations? Just **type** a short survey and E- **mail** it to your substation foremen list. The foremen can complete the survey--on screen--and...

**6/6,K/58 (Item 1 from file: 636)**

DIALOG(R)File 636:(c) 2004 The Gale Group. All rts. reserv.

03919872 Supplier Number: 50149196 (USE FORMAT 7 FOR FULLTEXT)

**-TOPCALL: TOPCALL introduces new Messaging Firewall**

July 9, 1998

Word Count: 722

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...C)1994-98 M2 COMMUNICATIONS LTD RDATE:090798 -- New integrated Messaging Firewall will safeguard e- **mail** networks against all types of attacks from outside the organisation TOPCALL International AG (EASDAQ: TOPC...

...the modular TOPCALL architecture, is a Messaging Firewall, which prevents attacks against companies through any **type** of e- **mail**. In the current release of TC/MFW, virus scanning capabilities have been added to the...

...messages and attachments received via the Internet, X.400, Microsoft Exchange, Lotus Notes, Lotus cc: **Mail**, Novell GroupWise and all other

services of the TOPCALL system which support binary attachments, are...

...also scanned for viruses. Additional features to be added in the near future include 'junk **mail** ' filters and enhanced configuration options for the virus scanning capabilities. TOPCALL, a leading provider of...

...delivery notification is sent to the originator, remove infected attachments, insert virus warnings or virus **scanner** reports into messages, or to forward infected messages directly to the operator - with or without...

...action and initiate appropriate precautions. Herbert Blieberger, Technical Director at TOPCALL International, comments: "As e- **mail** has become one of the most important means of communicating with customers and business partners, and the number of e- **mail** messages received is continually increasing, there's also an increased risk of receiving infected **mail** content. With our new messaging firewall we are able to provide customers with an effective...

...of distributors and system integrators. But TC/MFW is not only intended to scan e- **mail** for computer viruses. One planned future enhancement is to add e- **mail** filters that allow administrators to configure who will be allowed to send e- **mail** into the company and prevent so called 'spamming' or junk **mail** . The sheer number of all those unwanted e- **mail** messages can overload the e- **mail** system and consequently lead to the breakdown of the internal system. Furthermore, TOPCALL is already...

...practices. The different modules work with the basis system to unify the customer's e- **mail** and application environments (such as Microsoft Exchange, Lotus Notes, SAP R/2 and R/3, and others) with fax, Internet **Mail** , X.400, telex and wireless messaging. Additional modules include the corporate messaging archive and least...

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**mail** : iseel@globalnet.co.uk \*M2 COMMUNICATIONS DISCLAIMS ALL LIABILITY FOR  
INFORMATION PROVIDED WITHIN M2 PRESSWIRE...

**6/6,K/59 (Item 2 from file: 636)**

DIALOG(R)File 636:(c) 2004 The Gale Group. All rts. reserv.

03858535 Supplier Number: 48397112 (USE FORMAT 7 FOR FULLTEXT)

**FREE DISTRIBUTION OF J-TEXT JAPANESE WINDOWS WORD PROCESSOR**

April 1, 1998

Word Count: 831

... s higher end productivity programs: machine translation and Japanese OCR. J-Text will allow users **type** Japanese, send e- **mail** , and even look up specific Kanji.

"This is a great utility for those who need...

**6/6,K/60 (Item 3 from file: 636)**

DIALOG(R)File 636:(c) 2004 The Gale Group. All rts. reserv.

02925210 Supplier Number: 45950782 (USE FORMAT 7 FOR FULLTEXT)

**NEW TERMINALS: EPSON EXHIBITS NEW VERTICAL MARKET PORTABLE SYSTEM**

**TERMINALS; COMBINES 486DX CAPABILITY, TWO TYPE III PC CARD SLOTS & A HOST  
OF INTEGRATED OPTIONS IN A FORM FACTOR SMALLER THAN A CIGAR BOX**

Nov 20, 1995

Word Count: 456

Designed for a wide range of requirements, these lightweight VGA screen computers feature two **Type** III PC Card slots, e- **mail** and modem

capabilities, can combine integrated options (docking station, printer, magnetic card reader, laser **scanner** ) and provide users the flexibility they need to run DOS, Windows, Windows 95 and UNIX...

6/6/K/61 (Item 1 from file: 2)

DIALOG(R)File 2:(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6312013 INSPEC Abstract Number: C1999-09-7185-012

**Title: Development of wide area scanner for OCR flat sorter**

Publication Date: April 1999

Copyright 1999, IEE

Abstract: Recently the demand for flat **mail** sorting by **OCR** (optical character reader) has been growing rapidly. Flat **mail** items are large, and have a variety of thickness. Therefore high-performance scanners which have both wide field of view and deep depth of field are required for flat **mail** sorting automation. Furthermore a non-contact **type** image **scanner** is needed because flat **mail** has a variety of shapes. The authors have developed a prototype wide-area **scanner** of non-contact type which has 50 mm depth of field and twice as wide...

6/6,K/62 (Item 2 from file: 2)

DIALOG(R)File 2:(c) 2004 Institution of Electrical Engineers. All rts. reserv.

00263488 INSPEC Abstract Number: C71011088

**Title: Modeling the postal optical character reader**

Publication Date: 1970

...Abstract: Character Reader to read a machine-printed address is dependent on many characteristics of the **mail** piece; e.g. color, print quality, **type** of envelope, and address format. Since the nature of the **mail** , in terms of these characteristics, can vary significantly from city to city, the selection of...

... is a difficult task. This paper describes the development of a mathematical model of the **OCR** system for use in evaluating candidate sites. The heart of the model is an equation that accurately predicts **OCR** performance from a relatively small sampling of the characteristics of the proposed source of **mail** at the site.

6/6,K/63 (Item 1 from file: 233)

DIALOG(R)File 233:(c) 2003 EBSCO Pub. All rts. reserv.

00602076 00PI05-032

**Antivirus service providers**

20000509

... keeping clients and servers up-to-date with new virus definitions. Says that MailZone from **Mail .com** **scans** a corporation's incoming and outgoing electronic **mail** and attachments for viruses. Explains that the E-mmunity subscription service from the Electric **Mail** Company automatically deletes the attachment upon discovery of a virus, and then sends the message...

... the recipient with a ``Warning of Infection'' alert. Notes that Trend Micro offers a similar **type** of electronic **mail** virus protection but it is targeted at Internet service providers (ISPs) which resell the service ...

6/6,K/64 (Item 2 from file: 233)  
DIALOG(R)File 233:(c) 2003 EBSCO Pub. All rts. reserv.

00450090 97PW02-012

**Corex's smart but not perfect card scanner**  
19970201

Presents a favorable review of Corex CardScan Plus 300 (\$299), a business card **scanner** from Corex Technologies Plus (800). Features a 6-by-6-inch **scanner** and software that creates a Rolodex- **type** file for each card scanned, including name, title, company, E- **mail** address, and phone number. Says that it is easy to use, processing takes about 10...  
?